



THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYSICS 309

LECTURE 10

THE QUANTUM THEORY OF LIGHT

1. INTRODUCTION

2. THE PHOTOELECTRIC EFFECT

3. THE COMPTON EFFECT

4. THE WAVELENGTH OF LIGHT

5. THE ENERGY OF LIGHT

6. THE PRESSURE OF LIGHT

7. SUMMARY

A SERIES  
OF  
LETTERS AND OTHER DOCUMENTS  
RELATING TO  
THE LATE EPIDEMIC  
OR  
YELLOW FEVER;

COMPRISING :

*The Correspondence of the Mayor of the City, the Board of Health,  
the Executive of the State of Maryland, and the Reports of  
the Faculty and District Medical Society of Baltimore.*

ALSO,

ESSAYS OF THE PHYSICIANS,

*In Answer to the Mayor's Circular requesting information for the  
use of the City Council in relation to the Causes which gave  
Origin to this Disease—To which is added, the late Ordinance  
re-organising the Board of Health, &c. &c.*

PUBLISHED BY AUTHORITY

*Of the Mayor with the consent of the Authors, for the Benefit of the  
BALTIMORE SECOND DISPENSARY.*

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BALTIMORE:  
PRINTED BY WILLIAM WARNER.  
1820.

ANNEX

Fever, Yellow

CITY OF BALTIMORE, Feb. 1st, 1820.

To Edward Johnson, Esq. Mayor of the City of Baltimore.

DEAR SIR,

THE Board of Directors of the Baltimore Second Dispensary believe that their Charitable object might be materially furthered if they could gain, for publication, such of the letters and other interesting documents as may be in your hands, and in the Health Office, on the subject of the late Epidemic Yellow Fever of this City; and since the poor embraced by this Dispensary have been the greatest sufferers, and have thereby called forth this display of Medical talent, which lies in your hands as so many dead letters, it is hoped a suggestion to the above effect would meet the general approbation of the different authors thereof. Indeed the Board have already ascertained that several of the most lengthy and valuable of these communications will be given up for this purpose, provided a general invitation so to do shall come from you.

The Board therefore invite your co-operation and patronage, in order to secure, according to law, the above named documents, to be used for the benefit of this institution.

*Signed by order of the Board,*

J. W. GILES, Sec'ry. B. D. B. S. D.

DEAR SIR,

I have received your favour, and feel great interest that you should succeed in your laudable exertions for the establishment and support of the Second Dispensary, and most cheerfully will comply with your request and send a Circular to the several Medical gentlemen who have written on this subject, and obtain their consent to publish them, which I have no doubt will be considered a valuable work to the citizens generally and particularly to the Students of Physic.

With great respect your obt. servt.

FEBRUARY 4th, 1820.

EDWARD JOHNSON.

J. W. Giles, Esq. Sec'ry. to the Second Dispensary.

(CIRCULAR TO THE PHYSICIANS.)

CITY OF BALTIMORE, February, 1820.

DEAR SIR,

THE Communication made by you to me, respecting the late Fever, can be used to answer a very valuable purpose by being published with the others on the same subject, and the proceeds of the sale of the Pamphlet applied to the Dispensary. Not feeling myself authorised to use it without your approbation, I have to request the favour of an answer; and will take care, should you approve, to send the proof sheets to you for correction.

With great respect and esteem your obt. servt.

EDWARD JOHNSON.

BALTIMORE, September 1st, 1819.

*To Edward Johnson, Esq. Mayor of the City of Baltimore.*

DEAR SIR,

IT IS A FACT that large quantities of pine cord wood have been used on the South East corner of Fell's Point instead of earth, for filling up to the proper level a considerable number of water lots, ends of streets, WHARVES, &c.

This vegetable matter is not necessarily applied to the purpose of filling in, and I am clearly of the opinion that it is capable in hot seasons of generating the remote CAUSE of *Yellow Fever*—That it has generated the cause of all the Bilious Fevers which have prevailed here for many years back—That it is now generating the cause of the prevailing Fever, and finally that it is the most formidable nuisance in this quarter.

This may appear to you a novel opinion, but my reasons for it are strong, and shall be furnished for your consideration if it should please God to spare my life until I have more leisure.

Accept assurances, &amp;c.

*A. CLENDINEN, M. D.*

—\*—

 CITY OF BALTIMORE, Feb. 10th, 1820.

DEAR SIR,

THE Manuscript which I sent you on the Yellow Fever is at your disposal;—upon the conditions which you were pleased to suggest.

Accept assurances of very unfeigned respect,

*SAMUEL K. JENNINGS*

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 (CIRCULAR.)

BALTIMORE, December 1st, 1819.

DEAR SIR,

WITH a view to be enabled duly to advise the City Council in providing measures of precaution, relative to the Health of the City, calculating on the interest and disposition felt by Medical gentlemen on this subject, I respectfully request your answers to the subjoined queries.

1. Where were located the first cases of suspicious or highly malignant Fever, which occurred in your practice the past summer, what description of patients, as to mode of life, habits of body, places of resort, and to what particular source if any, and to what cause generally would you be inclined to ascribe their sickness?

2. What nuisances either general or particular were within your observations, that probably impaired the Health of the City, from what sources did they spring, and what measures would you recommend as likely to prove the cheapest, most expeditious and effectual for their removal?

3. Do you consider the late Epidemic under any circumstances contagious? be pleased to particularise any and every strong case calculated to shew its character in this respect.

An early attention to the above questions, with such other matter as you may deem useful, will be thankfully acknowledged by, Sir,

Your obedient humble servant,

*EDWARD JOHNSON, MAYOR.*

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*Edward Johnson, Esquire, Mayor of the City of Baltimore.*

DEAR SIR,

A disposition to shew becoming respect to the circular communication of the Mayor of our City, more than an expectation of adding any thing to the many luminous reports which will be made by the learned gentlemen of our profession, has induced me to submit the following considerations.

If a becoming diffidence of my own abilities had been wanting in this instance, a knowledge of the highly respectable communications from almost every City in the United States, found in the Medical Repository and other similar periodical works, and in that excellent instance of American literature, the work of Doctor Ramsay, would have taught me, that no very valuable opinion upon the subject of Yellow Fever could be submitted, differing materially from the views taken in those publications. Indeed it would seem to me, that these works might have been considered sufficient to render the present enquiry unnecessary:—The deliberate conclusions of such men and of such physicians, bring to my mind conviction, which the unanimous asseverations of a host of ordinary men, would have attempted in vain.

The amount of all these authorities, may be summed up in one short sentence: which is, that “Intermittent, Remittent and Yellow Fever are merely varieties of one disease.”

That this sentence contradicts the opinions of many other physicians, both in Europe and America, I am well aware. In Great Britain a very large body of the faculty of that boasting Country, decided by vote, that the Yellow Fever of the United States, was a contagious disease. And I am doubtful whether any of this learned body had ever attended a single case of the disease in question.

In too many instances men undertake to decide upon questions of this sort, who are not qualified to judge. Until within a few

years, malignant diseases of whatever sort, have from time immemorial been considered contagious, by the learned and the illiterate. Of course, it was difficult to find any Physician sufficiently freed from prejudice, to approach the subject without a mind ready to exaggerate every thing like evidence of contagion, and to undervalue all opposing testimony.

The very fact, therefore, that individuals every way competent to judge of the matter, are now found opposing the doctrines of contagion, is of itself evidence of high authority, that nothing short of overwhelming truth could have removed their prejudices and changed their opinions. And a moment's reflection upon the condition and the concomitant operations of the human mind, when it must break loose all its old associations, and encounter the prejudices of the whole world, will evince to any discerning enquirer the superior claims of those distinguished individuals, whose opinions I shall offer, as conclusive authority upon this subject.

But before I proceed to the quotations which are contemplated, permit me to premise, that of the hundreds and the thousands, who declare and believe the Yellow Fever to be a contagious disease, very few have ever seen it, and those who have ventured to look upon it, came to the sight, with all the horrors which must be felt in the field of battle; expecting every moment a shaft of contagion to transfix their liver; of course they were badly qualified to make a cool dispassionate enquiry: whilst our distinguished non-contagionists, have had rational cause to triumph over all their terrors and think like men.

Doctor Ramsay gives a history of the Yellow Fever as it occurred in 1699, 1732, 1739, 1745, 1748, 1753 and 1755. "In all these instances" says he, "it was supposed to have been imported. But it never spread in the country, though often carried there by persons who died out of Charleston," Again he gives the history of the fever as it occurred after an interval of forty-two years, viz. in 1794, 1795, 1796, 1797, 1799 and 1800, and remarks that with a few exceptions it fell exclusively on strangers to the air of Charleston, and was in no instance contagious. And he concludes the whole matter with this general inference, "We have no reason to believe the Yellow Fever, was either imported among us, or communicated by contagion."

Doctor Ramsay in a letter to Doctor Miller of New York, dated 18th November, 1800, says, "That the disputes about the origin of Yellow Fever, which have agitated the Northern States, have never existed in Charleston. There is but one opinion among the physicians and inhabitants, and that is, that the disease was nei-

ther imported nor contagious. This was the unanimous sentiment of the Medical Society, who in pursuance of it, gave their opinion to the government last summer, that the rigid enforcement of the quarantine laws was by no means necessary on account of the Yellow Fever." "My private opinion is, that the Yellow Fever is a local disease originating in the air of Charleston." See New York Med. Repository, Vol. IV. page 218 and 219.

Doctor De Rosset of Wilmington, North Carolina, describes the symptoms of Yellow Fever, as having accompanied the Marsh Fever of that place in 1796. He speaks of the town as being much exposed to the Marsh Effluvia, and of the summer as having been unusually hot and dry after a very wet spring: Of this fever says he, "I have no doubt in my own mind of its having originated among us, nay more, of its differing from our common bilious remittent, but in degree; of it originating from the same causes and being aggravated by the circumstances of the season." "I did not observe one instance of its being contagious, nor do I believe it was so." "A few cases of our common Fall Fever take on all the symptoms of a violent Yellow Fever." See New York Med. Repository, Vol. II. page 143, 144.

Doctors Taylor and Hansford of Norfolk, Virginia, say that the Yellow Fever of 1800 in its malignant form always originated on the banks of the river, or on *low new made ground* and in houses built on the docks. In all cases it begins with strangers and new settlers, affecting every one in proportion to his time of residence, and leaving the old inhabitants not wholly exempt, yet, proof against its destroying powers. "Persons from higher latitudes often fall victims, but with European strangers, the fever was generally uncontrollable." See New York Med. Repository, Vol. IV. page 205—6.

This account of Doctors Taylor and Hansford, is confirmed by Doctors Selden and Whitehead, two other physicians of Norfolk, who speak of the exemption of the *permanent* inhabitants as a fact to be accounted for from the great similitude of the situation and climate of Norfolk, to those of the West Indies, where the same thing annually occurs. They add, that the atmosphere for two months was constantly heated above the 85th ° of Fahrenheit's thermometer and *sometimes* to the 94th °. and 95th °. degree, but very frequently above the 90th °.

These gentlemen add, "that part of the town where the malignant fever chiefly prevailed, stands *entirely* on *made ground*, reclaimed from the river by sinking pens of large logs, and filling them up chiefly with green pine *saplings*, which are slightly covered over with earth or gravel. In some places large openings are

left for the formation of docks, &c." How exactly they describe the condition of Fell's Point!! "For several weeks after the fever had commenced" they add "it was quite local." See New York Medical Repository, Vol. V. page 129.

In 1801 these four physicians subscribed a statement which contained the following declaration, "*We know of no instance in which the disease has been communicated by contagion.*" See Med. Rep. Vol. V. page 225, &c.

In the year 1798 Doctor Davidge made a publication respecting the fever of 1797 as it occurred in Baltimore. He states that the fever began in the ordinary form of Billious or Remitting Fever, which "was gradually lost in the severer degree of Yellow Fever, as the season advanced in the month of August. That from that time till November the Yellow Fever alone was observed." He considers "Intermittents, Remittent and Yellow Fever as merely varieties of one disease." See Medical Repository Vol. II. page 83, 84.

Of the Epidemic Yellow Fever which occurred at Baltimore in the year 1800, the Faculty in a report to the Mayor says "after the most scrutinizing investigation the faculty has found no proof, or even cause of suspicion, that the fever which lately so unhappily afflicted our City was derived from foreign causes." They proceed "The faculty believe the following to have been the sources of the late Malignant Fever. First, The Cove which extends from Jones' Falls to the interior of Fell's Point," the condition of which they describe. "Second, The Docks in general but especially the interstices between the wharves, where the water stagnated and afforded a proper matrix for the generation of pestilential effluvia."

They also mention several other causes of more limited operation, such as stagnant water retained in cellars, ponds and low grounds, in the City and in its vicinity; and finally the *made grounds* of which the wharves and the lower parts of the streets are formed, which if described fully, would be a transcript of that given by Doctors Selden and Whitehead of the made grounds and wharves of Norfolk. From these sources "we derive the first cases of the late fever, and from these fomented by the summer's sun, we believe to have been afterwards epidemic. We are most strongly impelled to ascribe our late Malignant Fever to these causes, from having ascertained that it did not exist in the high parts of the City, remote from exhalation, unless it had been carried there from the Point, or from the lower parts of the City."

Doctor John Vaughan has given an account of the Yellow Fe-

ver as it occurred in the year 1798 in Wilmington, Delaware, which was published in the New York Medical Repository, Vol. III. page 368, &c. In this, he states that he had previously believed this disease to be contagious. But the circumstances which in this instance had taken place under his observation, had led him to adopt the contrary opinion. He had evidence the most unequivocal, that it had arisen solely from the noxious exhalations to which, the lower part of the town particularly, was exposed; "and he could not discover a single instance, in which the fever had been communicated to any person, who had not been within the reach of these exhalations."

Wilmington was again visited by this fever in 1802; and in 1803, Doctor Vaughan published "A Concise History" of it, printed in Wilmington in 1803. In this work, he confirms his former views, and adds the difference of degrees of danger, upon visiting the infected district in the day time and in the night. Many persons who had frequently visited that district in the day time and in fair weather, without injury, sickened by a *single exposure* in the *night time*. "The *non-contagious* nature of the disease was repeatedly attested by persons sickening after their removal from the lower parts of the town, and being nursed with every attention, and dying without communicating the malady to their attendants." He also informs us, that every instance of bilious or intermittent fever, even of the most ordinary form which occurred after the middle of September, if not arrested within forty-eight or seventy-two hours, invariably passed on to the malignant grade of the disease.

Not to waste time in noticing the instances of Yellow Fever which occurred in Philadelphia in the years 1699, 1741, 1747 and 1762, we all know the great mortality it produced in 1793. In consequence of "the great numbers attacked by it and the influence of preexistent opinions on the subject of contagion," it appears that the physicians as well as the inhabitants, without reflection or enquiry, concluded that it must be a contagious disease and that it had been imported from the West Indies. Doctor Rush though he also at that time considered it a contagious disease thought it had been produced by a cargo of damaged coffee.

In consequence however of the publication of a work upon the subject by Doctor Dewees, and of subsequent observations made in the year 1797, &c. &c. Doctors Rush, Caldwell and eleven other physicians of the City of Philadelphia, having formed an opinion differing from that of the majority of physicians there, and "being called upon by the Governor of Pennsylvania to state for the information of the Legislature, the results of their researches and

experience, respecting the origin, progress and nature of the Epidemic Yellow Fever, &c." These gentlemen in 1797 in their answer say "We believe the fever which lately prevailed in our City, commonly called the Yellow Fever to be the Bilious Remitting Fever of warm climates, excited to a higher degree of malignity by circumstances to be mentioned hereafter."

They gave five reasons for their opinions, four of which I would highly approve, but the fifth viz. "That the common Bilious and Yellow Fever are *alike contagious under certain circumstances* of the weather and of predisposition in the body," was certainly exceptionable.

After this these gentlemen with others, were again called on by the Governor. They declared in their letter, dated 3d December, 1798, "That the disease is not contagious in the West Indies, and rarely if ever so in the United States, in hot weather; at which time only it makes its first appearance in our country. So general is this opinion, that some physicians have unfortunately refused to admit the existence of the fever in its commencement in our City *only* because it was not contagious."

At this time Doctor Rush had so strong a bias in favour of that belief "that he could not relinquish the notion of an occasional or accidental occurrence of that quality, until very many proofs in opposition to it, and those of the most decisive nature, had been presented to his consideration." At length he obtained the fullest conviction on the subject, and in a letter to Doctor Miller, published in the New York Medical Repository, Vol. VI. page 135 to 150 he gives a lengthy statement of facts intended to prove the Yellow Fever not to be contagious. Towards its conclusion he says "you will perceive from the facts and reasonings contained in this letter, that I have relinquished the opinion published in my account of the Yellow Fever in the years 1793, 1794 and 1797, respecting its contagious nature." "I was misled by Doctor Lining and several West India writers."

Afterwards in his preface to a subsequent edition of his Medical Inquiries and Observations he made the following declaration, "In the fourth volume the reader will find a retraction of the author's opinion of the Yellow Fever spreading by contagion. He begs *forgiveness* of the friends of science and humanity, if the publication of that opinion has had any influence in increasing the *misery and mortality* attendant upon that disease. Indeed such is the *pain he feels, in recollecting that he ever entertained or propagated it*, that it will long and perhaps always deprive him of the *pleasure* he might otherwise have derived, from a review of his attempts to fulfil the public duties of his station."

Doctor Baneroff, of London, speaking of this recantation of Dr. Rush, says, "if the *conviction* of any one man can reasonably influence the opinions of others on this subject, the preceding declaration by Doctor Rush, ought to produce that effect, made as it was, not precipitately or capriciously, but with slow and cautious deliberation; not from the impulse of former prejudices, but in direct opposition to them—not from a vain desire of being considered infallible," &c. &c. "To me" continues Doctor Baneroff, "Doctor Rush appears as being more *estimable* after this *honest* avowal of an error, than he would have been, had he never fallen into it: and I earnestly hope, that in similar circumstances I should most willingly follow his example." It is necessary that it should be noticed that the Yellow Fever in Philadelphia 1793 began in Water street, afterwards it appeared in houses adjoining other swampy grounds near Dock street, Kensington and Southwark, that there, as in the cities and towns further southward, it resembled the Marsh Fever in almost every circumstance, and that it left unhurt, the French fugitives from the West Indies, and others who had long resided in hot climates. Also that it ceased immediately after frost.

It is probable the Yellow Fever had frequently occurred in the City of New York antecedent to the times of which we have any regular account of it in that place. In the year 1791 a considerable number of cases occurred in a part of Water Street near Peck slip, at that time noted for the filthy state of the neighbouring Docks. In 1794 it again occurred to a greater extent. But the subjects of it, were persons who either lived or were employed near the slips, wharves and other sources of Marsh Miasma: which was also the case, in the three following years.

In 1798 the disease prevailed as an epidemic, and according to the account of it, published by Mr. Hardie of New York in 8 vo. 1799, it occasioned the death of 2086 persons, in that City. The committee appointed by the Medical Society to enquire into its origin, symptoms, &c. reported that "it is not a contagious or catching disease." "That it is not communicable from person to person." See New York Medical Repository, Vol. III. page 293.

In 1800 in the neighbourhood of *Water Street*, and of the different slips, and other sources of miasmata, one hundred or more cases of Yellow Fever occurred *simultaneously* and *intermixed* in the same situations with intermitting and bilious remitting fevers: more than fifty of the Yellow Fever cases terminated fatally in a few days, many of them exhibiting the symptoms of the yellow skin, *black vomiting and stools*, hemorrhages, &c. On this occasion, no one pretended to ascribe its origin to importation. See New York Medical Repository, Vol. IV. page 207—8. The fol-

lowing year, about twice the same number of cases occurred, in nearly the same situations and with similar circumstances. The year 1803 exhibited very hot weather, which began in July: and excepting five or six days according to Doctors Mitchell and Miller, it was more intensely and uniformly hot, than they had ever known it, in that climate, for the same space of time. In consequence of this, the Yellow Fever became more extensive than in any former year. During its continuance, there were reported instances of individuals, sickening and dying in families, in which no cases recurred. Such an instance occurred in the debtors prison where the patient had been confined for the three preceeding months. Many aged and young persons whose condition actually confined them to their houses, and without any previous occurrence of any case in the family became the subjects of the fever. Many fled not only to the country, but to the towns of Newark, Elizabeth-Town, Brunswick, &c. where they sickened and died, without communicating infection in a single instance, either to physicians, nurses or any of the attendants. Indeed there was a total absence of every thing like contagion even in the Yellow Fever Hospitals. See New York Medical Repository, Vol. VII. page 183—4.

And in 1804 Doctor Miller in a letter to the Governor, proved as far as the subject was susceptible of negative proof, that the fever in question, did not arise from any foreign or imported contagion. This letter was published in the printed documents relating to the board of health in Svo. 1806, page 35. In 1805 the Fever occurred accompanied by circumstances so similar that they need not be repeated. I will add only, that this year afforded still stronger evidence in support of the same important positions "That the fever has a domestic origin, that it is not imported."

By proceeding further north we find that the Yellow Fever has also occured at New London in Connecticut. In 1798, after a hot dry summer it was attended with considerable fatality, eighty-one persons died. The first cases occurred near the water, and there was no appearance or suspicion of any contagion from the sick. See New York Medical Repository, Vol. II. page 304—5, 372 to 378—also Vol. III. page 229.

At Providence, the Yellow Fever became prevalent in 1797, also in 1800 and 1805, "It has uniformly made its appearance and committed its principal ravages in the South part of Water Street, or the Lanes or Alleys immediately adjacent:—and those solitary cases, which have occurred elsewhere could with very few exceptions be traced to this devoted spot." See Medical Repository, Vol. X. XI. page 329 to 337.

Doctor Wheaton, in his "Brief Account of Yellow Fever, &c."<sup>99</sup> informs us, that after an intensely hot sun, the thermometer in an airy situation ranging from 86° to 91°, the Yellow Fever made its first appearance on the 13th of August, "and continued to rage to the 30th of September." One hundred and two persons were attacked, forty-five died. "Its early disappearance was effected by an almost universal desertion of that part of the town, and the kindly influence of a very heavy rain and tornado, which occurred on the 8th of October.

In 1800, the first case of Yellow Fever occurred at Providence on the 15th of August, and the disease continued to prevail, until the 5th of October. Eighty-three cases were reported, of which fifty died. In this instance also the sickly district was deserted, probably more universally than before, with similar effects.

In 1805, the disease made its appearance as early as the 25th of July, after a very unusual duration of *hot and dry* weather. The Town Council directed an immediate and complete evacuation of this part of the town, and on the 10th of August, it had disappeared. The people became impatient to return to their homes, and several new cases occurred in September.

Doctor Wheaton adds, "Here as elsewhere, the Yellow Fever has not been propagated by the sick, in situations otherwise healthy." It was *not contagious*, not even in the Hospitals. See Medical Repository, Vol. X. page 329 to 337.

At Boston during the prevalence of very warm weather, in August 1796, at the South East part of the town, near to a considerable extent of flats, which were daily exposed to the action of the sun, a fever began and spread from thence to the neighbourhood of some of the docks, proving fatal to about thirty persons. Doctor Warren, an eminent physician there, in a letter to the American Academy of Arts and Sciences, declared that he had almost every autumn seen at Boston, a considerable number of similar cases, "not excepting the black vomit, nor the yellow skin" and that it was "what was properly termed, a Bilious Remittent Fever."

In the year 1798, during the prevalence of hot weather the thermometer was often above 90° and sometimes 96° of farenheits' scale. In this instance it attacked those only, who lived or passed some time in the neighbourhood of a mill-pond, drained of its water, so as to leave its bed exposed to the sun; and in the vicinity of several spacious docks, into which, there were thrown large quantities of vegetables, &c. refused at the markets. Not one of twenty who were first attacked, recovered. In all, three hundred died of the fever. The epidemic was completely checked

by an *inundating* storm from the north east. The weather was never known so hot, which prevailed from the latter part of July to the middle of September. Here as in all other places noticed above it was not contagious. See Medical Repository Vol. II. page 360 to 363.

The fever appeared again in Boston, in August 1802, and prevailed until the month of October, and "with *greater* malignity than in any former year; equalling the worst species of genuine plague; yet the range of the disease was quite limited." So great was the malignancy, such incorrigible prostration attended it from its commencement, that indeed the patient might be said to be dying from the moment of seizure." It was confined nevertheless "to the same parts of the town as in former years, and wholly to houses promiscuously situated at the *heads of wharves, in the south part of the town*; and it was remarkable, that if a patient under the disease was carried out of the range of the morbid atmosphere, into a healthy part of the town, attended by persons there resident, the disease was not communicated in a single instance: but not so, if he remained on the spot where he took the disease." See N. Y. Med. Rep. Vol. VI. page 338—9.

I will be excused in having given this extensive history of the Yellow Fever. It is a long and sad account of the distresses incident to our cities. But it will be considered appropriate on the present occasion. And by the help which I have obtained from the perusal of a work published by Doctor Edward Nathaniel Bancroft, it has been somewhat convenient to condense a great deal of information, into a compass, on the whole, quite small enough considering its great importance.

I have performed this labour the more willingly, because the work from which the several extracts are made, is very voluminous; as you will perceive by the references; and because it is a work, which perhaps few men not of our profession, would take the pains to examine. Besides I understand some additional legislation is contemplated, in respect of this terrible disease; and as some of the most distinguished medical characters among us, have done honor to themselves and to the City, in judging rightly from the earliest instance of its occurrence, and publishing to the world their views of this disease, I could not do less than offer my contribution towards the preservation of that honorable reputation, of which without this labour I might have shared a dividend of *gain or loss* without having evinced my willingness to partake with them, a reasonable portion of the toils necessary to maintain the one or prevent the other.

From the consistency, I might have said, the uniformity of these reports from all the Cities, I may with much confidence insist upon the identity of the disease in every place. And the joint opinion of so many able judges supported by facts so unequivocal, prove with all necessary certainty, that Professor Davidge, used a language which needs no explanation, "That Intermittent, Remittent and Yellow Fevers, are merely varieties of the same disease;" and it remains only for me to state, that the few observations which I was able to make during the late affliction of our City, were entirely consistent with this view of the subject.

In the first family to which I was called, I had eight patients, apprentices to a respectable ship-joiner on Fell's Point. For some days previous to the commencement of the fever, they were all engaged in plaining a vessel at Price's wharf, in the neighbourhood of Wolf and Pitt Streets. The first of these eight cases, was likewise the first instance of attack upon any of the resident inhabitants. The fever was incorrigibly malignant and terminated fatally on the morning of the fourth day, with black vomit and stool, hæmorrhage, &c.

The remaining seven were immediately removed to other houses, in more healthy situations, and were all preserved. It is worthy of remark, that the facility of their recovery appeared to vary with the distances to which they were removed from the water's edge, and to the elevation to which they were raised above the surface of the ground.

I had several cases which were taken sick after their removal from the Point, to the upper end of Howard Street, and to the neighbourhood of the State Prison. It was truly remarkable how much more manageable these instances were, than similar instances remaining within the sickly district. Several cases occurred at Mr. Hussey's, the tanner on Wilk's street at the Harford Run. I had good reasons for believing that these cases would have been distinct instances of common remittent or bilious fever, had it not been for the deleterious exhalations of some duck-ponds in the neighbourhood, which had become so contaminated, as to kill the ducks that were in habits of using them.

Immediately to the west of the Tan Yard, and about the same distance from the Cove, I had several cases in one family of the most regularly marked intermittents, that I saw through the whole season. And a little higher up the Harford Run, I had a case which after a very moderate use of Cathartics only, was cured by the removal of the patient to a high and remote part of the City.

In conformity to the report which will be sent up by Doctor Martin, my observations perfectly satisfied me, that the worst cases were those which occurred in the neighbourhood of the wharves. And that the greatest fatality befel strangers and intemperate persons.

In consultation with Doctor Bond, Jun. I saw two cases in Capt. Stiles' Steam-Mill-Factory. These persons lived immediately upon the margin of the water. But they were not marked with that high degree of malignancy which was quite common upon Fell's Point. They both readily recovered. Four cases occurred at Mr. Freburger's corner of Hill and Forest Streets. These were all highly malignant; and two of them, were of the most violent kind. One a German three weeks only resident in this country. The other a female of whom indeed it may be said, "she began to die as soon as she was taken ill." At Mr Freburger's, the back yard was well filled with chips and other vegetable materials and upon this mass of stuff was discharged daily through the summer, the filth of dish-water and of the washing-tub.

Suffer me here to add a fact which occurred under my observation in Virginia. At the house of a Mr. Clark, formerly steward to Mr. Jefferson's plantations in Bedford county of that state, I met with several cases of malignant fever. I accused the condition of his cellar-kitchen floor, with being the offending cause. It was examined, and we found rotten wood slobbered in dish water, &c. &c. to be the true matrix of the poisonous exhalations. It was immediately removed. And although the first four who sickened, all died; one in two, one in three, one in four days after the attack;—of the remainder of the family, that sickened, perhaps twenty in number, there was not one instance which was marked with malignant appearances. Mild remittent fever immediately succeeded to a fever before altogether unmanageable: and after the removal of the rotten wood &c. every case was cured with the utmost facility. This fact so clearly descriptive of the cause of the fatality in that case, leads me to feel the more confident, that the chips, &c. in Freburger's yard, together with water of similar description, had produced similar effects.

With all the preceding testimony, collected from so many cities, by so many different and distinguished judges, all perfectly consistent with these views, with due deference, I proceed to give you my opinion, respecting the Yellow Fever of Fell's Point. The same opinion will equally apply to the instances that occurred on Smith's wharf.

First then, the hot weather served to evaporate the waters of the Falls and of the Basin, till it was so highly charged with the

necessary foreign materials, as to be fitted for the production of the fatal effluvia, which, but for this, would have produced at the worst, nothing more than the miasm which maintains intermittent and remittent fever. This filthy water, absorbed by the rotten wood, &c. &c. of which the wharves and platforms are constructed, as also by the immense mass of similar materials in all the docks; the whole fomented by the daily action of the returning hot sun, constituted the grand source of the poison effluvia, which make Epidemic Yellow Fever. The cases which occurred at Mr. Clarks' in Virginia, as also the cases at Mr. Freburger's, I would offer as instances explanatory of what we call sporadic cases of fever.

When through the influence of a hot dry summer, the waters on a large scale are saturated with filth and slime; then in all the towns where there are docks and made grounds of sufficient extent and in suitable condition, we shall have Epidemic Yellow Fever. And whenever a family shall be sufficiently thoughtless or unfortunate, to suffer a similar combination to be formed too near to their dwellings, or wherever individuals shall remain too long in or near the vicinity of such a mass during a long continuance of hot and dry weather, we may expect sporadic cases of Yellow Fever.

All therefore that the police could reasonably do, promising utility towards preventing an Epidemic Yellow Fever, should be done in reference to the condition of the water and docks—And whatever is done in respect of ordinary nuisances may probably serve to prevent or render less malignant, instances of the sporadic kind.

As to the quarantine laws, it will be perceived that this collection of testimonies, with all its weight opposes the doctrine of contagion;—of course, declares the inutility of such laws in respect to Yellow Fever. In a late memoir published last year, 1818, by Professor Potter, upon the subject of "Contagion more especially as it respects the Yellow Fever, &c." The learned author has very satisfactorily proved the absurdity of making any such laws. And the better to secure the just claims of humanity in this important concern, he has given a detailed exhibition of the injuries which are sustained by those communities, whose prejudices have led them to perpetuate these monuments of obstinate credulity, these inhuman institutions;—absurdly cruel, since they serve no other purpose but to increase the afflictions of the cities, whose ports they are intended to defend.

It is my private opinion, that if the wharves were surrounded by a good wall of stone or even of timber, so constructed as to af-

ford room enough to place a few feet of good clay between it and the wharves as they now stand ; and if the whole surface were then covered over with a good stratum of similar clay, it would do much towards the prevention of Epidemic Yellow Fever. The clay recommended to be placed around the margin of the wharves is intended to exclude the water and to prevent it's passage into any cavities which may happen to remain amongst the wood and timbers of which they are constructed. The upper stratum will lessen the impression made by the rays of the sun, and likewise prevent the excape ment of any noxious gas from beneath. It might also be useful to close up all of the slips so as to ensure the necessary flowing of the waters, at least as much as possible to prevent its stagnation.

The contents of back-houses and other materials of similar character, may by their accumulation claim the attention of the police on account of the offensive odour which they produce. But I am not at all inclined to believe, that, Yellow Fever or any other formidable disease, is ever produced by filth of this description. But we shall scarcely err in dreading as very formidable nuisances, every instance of stagnant water retained too long in neglected cellars, as also all those cellars which have long been the deposit of wood, or in which there are rotten sleepers or others timbers, boards or chips, in a rotting condition and sufficiently charged with water to keep the dangerous fermentation in action.

To these well known causes of malignant disease, I beg leave to invite particular attention. But as to all the other species of filth found upon the streets or about the dwellings of careless house keepers, they need no other attention than will always be secured by proper notions of virtuous cleanliness.

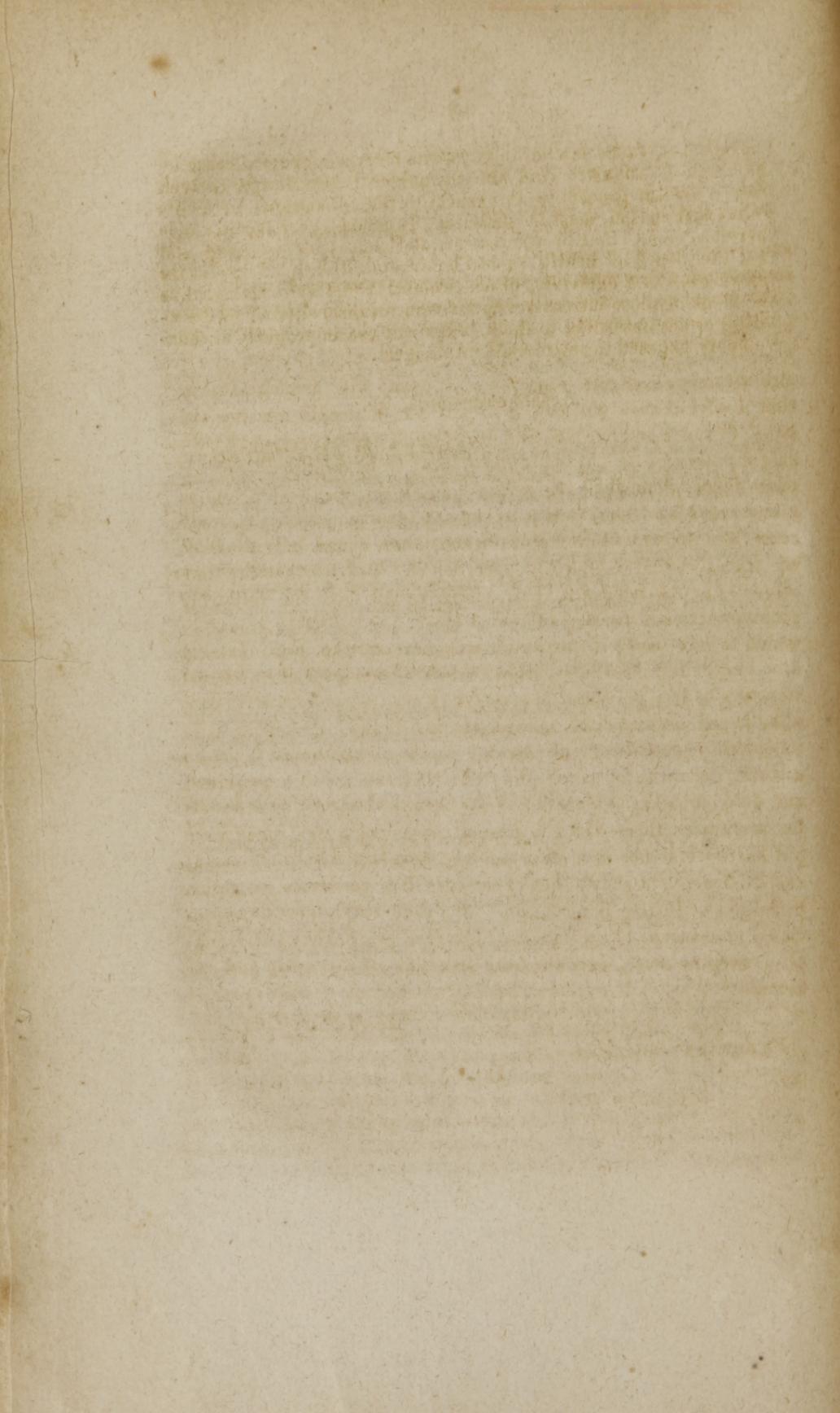
There is one subject, however, which in a very special manner requires legislative attention. I have reference here, to the great importance of removing the inhabitants from any district which is known to be enveloped by an atmosphere which is producing Yellow Fever. Many complaints have been made against the Philadelphians on account of their apparent partiality towards New York. But it ought to have been remembered, that, the board of health in New York had the authority necessary for the vacation of any part of the city, pronounced to be infected with Yellow Fever. And therefore, although, the Philadelphians might have erred in their opinions respecting contagion, this power vested in the board of health and duly, and timely exercised by that board, most certainly afforded a degree of security, which the board of Baltimore, could not imitate. But this is not the most important consideration. It will be remembered, that, by an immediate removal of the inhabitants from the sickly district in the towns of

Providence, Rhode Island, in 1815, the fever was made to cease by the tenth of August. And the unequivocal advantages derived from a similar procedure in respect to the inhabitants of Fell's Point, last season, must be sufficient to remove every doubt. It is therefore clear, that in this matter, decision is indispensable and that the board of health should be furnished with all necessary *information and authority*, to act promptly; and by so doing, save the lives of those citizens, who for want of discretion or of the ability to act according to their judgment, are improperly or unavoidably exposed to such imminent dangers.

Accept assurances, &c.

*SAMUEL K. JENNINGS.*

*January 3rd, 1820.*



WHEN called on to give some explanation of the nature and origin of the malignant Yellow Fever which recently made its appearance amongst us, and to point such means as might prevent its fatal recurrence at a future time ; fully sensible of the momentous character of the subject, and aware, that the laws which govern the appearance and disappearance of epidemic diseases are still shrouded in mysterious darkness, it was with much hesitation that I offered my opinion. A subject which deeply interests the lives, fortunes and happiness of our species, cannot be viewed with cold indifference by any—how much must he be impressed with its magnitude, who, while he writes to instruct, has before him so many records of the frailty of human genius, which, it would seem, like the wave that ripples to the shore, comes only to efface the traces of that which had preceded it. But, neither the time allowed, or the incidental need which called forth the following communication, admitted of that deep and scrutinizing research, which to have done it justice, it was necessary to have entered into, respecting those laws, whose active agency over the material structure of the universe, is constant in the production of causes, alike beneficial and fatal, to man—in fine, to have treated of it, in its extensive relation, to all animate and inanimate matter. Such a work, the result of much study and reflection, with a continued and discriminating observation of the arcana of nature, must be left for a maturer time—On the present occasion, a few ideas were put hastily together in a plain manner, unadorned by professional embellishment, to shew, that experience has confirmed as truths, principles of lasting importance. May their correctness be appreciated to save our cities from the horrors of pestilence ; and humanity, weep no more, over the base desertion of the needy and afflicted.

*P. MACAULAY.*

FEBRUARY 21st, 1820.

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*To Edward Johnson, Esq. Mayor of Baltimore.*

SIR,

IN answer to the questions which you have done me the honour to submit to my investigation I shall endeavour to offer my ideas in as plain and concise a manner as the important nature of the subject will allow. The field is an extensive one, and has successively been entered on by the most enlightened and able medical men of the last half century. Their controversies and their labours are before the world and although it cannot be said that the cause, or if I may be allowed the expression, the essence, on which the Yellow Fever depends has been really ascertained, yet, so much light has been shed on this interesting subject, more particularly by the British army Surgeons in the West Indies, and some of our distinguished countrymen, that much, very much, has been done, by explaining its origin, progress, prevention, and cure, in the mitigation of one of the most dreadful calamities, that can afflict human nature. The contest which has arisen on the domestic or foreign origin of this disease, its contagious or non-contagious properties, has called forth so much talent, and has been treated in so masterly a manner in our own times, that it would be useless here to enter upon it; indeed, to fulfil the objects contemplated by this communication, I shall only be able to give an epitome of the result of my observations and researches on its nature and origin. If it shall seem to any that the principles I have assumed and on which these observations are founded, are erroneous, to such I shall make this only reply, that much reflection has convinced me that they are correct; and whenever their opponents shall bring against them the mass of enlightened testimony, which can be adduced in their favour, I am prepared to desert them.

The disease called the bilious remittent or Yellow Fever, is a disease of climate, unconnected with a foreign origin. The appearance of this mortal fever at various periods on this continent, as remarked since the year 1764, has fully established this fact, as it has always been connected with those high degrees of temperature which renders it the endemic of all tropical climates. The summer and autumnal seasons of the northern and middle sections of the United States, are sometimes attended with the excessive and unremitted heats felt beneath the tropicks. I do not know that any experiments have been made in the warm climates to ascertain under what degree of temperature the miasmatic effluvia, so

peculiar and fatal in its effects, and on which the disease depends is disengaged; in many of the West India Islands the winters are not sufficiently cold to check it entirely. Count Volæy has remarked, that the heat necessary to produce malignant fevers in Syria and Egypt was about  $86^{\circ}$  degrees of Fahrenheit, and Dr. Davidson confirms it in some degree with respect to the Island of Martinico; he thinks, that beginning at this degree of heat, the malignant and infectious properties of fevers keep pace with the increase of temperature until they terminate in plague.

The succeeding interesting observations on the degree of heat, which influences the production of Yellow Fever in our climate, by an intelligent citizen of Philadelphia, who had remarked its fatal recurrence in that City, are most conclusive: it is part of an account published more than two years ago in the Daily Advertiser and which at that time forcibly attracted my attention.

“By the following account of the mean heat at 3 P. M. of each month in the last twenty-five summers, it will appear evidently that the Yellow Fever has never within that period, prevailed here at all, or so as to occasion alarm, when the mean heat at that hour of all June and July had been lower than  $79^{\circ}$  only a very little in 1802; and that in every summer when it had been above  $79^{\circ}$  it has prevailed more or less, and that the mortality has been regulated by the heat being higher or lower. In 1793 and 1798 which were the hottest summers in all the twenty-five years, it prevailed most, and was attended by the most extreme mortality. In 1797, 1799, 1803 and 1805, when lower degrees of heat prevailed the mortality was less. In all the other years, except a small mortality in 1802, when the mean heat of those two months was below  $79^{\circ}$  at the hour mentioned, we have had no alarm of Yellow Fever.

“I consider the two months of June and July as governing the summer season, insomuch that by the first day of August, in any year, we may be pretty certain whether we shall be afflicted with Yellow Fever or not; so that if we find the mean heat of the Thermometer at 3 P. M. placed properly in the shade, in a free current of air, at least twenty or thirty feet from any sunshine, and not exposed to the reflected heat of any building, to be below  $79^{\circ}$  we may rest easy, and conclude that we are not likely to be visited with that scourge during the summer or autumn then passing over our heads.

“In 1793 the mean heat of June and July at 3 P. M. was  $82^{\circ}$  in 1798, it was  $80^{\circ}-6$ , both of which indicated the calamity that followed; but August 1798 was so extremely hot that it heightened the mortality and made it nearly equal to what it was in 1793

when the two first summer months were hotter, but August not so hot as in 1793. The wetness and dryness may also have an effect, not yet well ascertained; it being remarkable, that in 1805, when the mean heat of all June and July was  $79^{\circ}$  and August  $81^{\circ}-7$ , the two months of July and August were so very dry, that perhaps not so much as one quarter of an inch in depth of rain fell till within three or four days of the end of the latter month, when it rained moderately: this rain appeared sufficient coming after the preceding heat to give activity to the dormant infection of the Yellow Fever, which immediately broke out, more especially in Southwark, where it was very mortal in all September. The use of Schuylkill water, which is said to be much purer than the old pump-water, may have had a beneficial effect by way of prevention within the last ten or twelve years; so may the regulations and care of the different boards of health, which to a certain degree should never be intermitted. Still I am of opinion that the heat not of a few days or weeks, but the mean heat of the summer season, is the grand governing cause, under providence, that excites or depresses this dreadful and alarming scourge when it appears in our City."

To shew the temperature of the last summer I have procured an accurate Meteorological table kept by Mr. L. Brantz at his country residence in the vicinity of this City.\* The degree of heat must have been much increased with us by the situation of the place, the reflection from the buildings, pavements, &c. I regret that it is not in my power to obtain any journal of it. On reference to the table of Mr. Brantz it will be observed, that the mean degree of heat during the months of June July and August, is in accordance with the statement above quoted of the degree of heat essential to the production of Yellow Fever. In June the mean degree of heat at 2 P. M. was above  $83^{\circ}$  of Fahrenheit; in July above  $85^{\circ}$  and in August above  $84^{\circ}$ .

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\* From the situation of Mr. Brantz's house the range of the Thermometer which he has given may be considered as the lowest during the months of June, July and August. It is necessary to state that the tables which follow, are but an abstract of those kept by Mr. Brantz. His nice observations on the state of the Barometer and Hygrometer are totally omitted.

METEOROLOGICAL OBSERVATIONS,  
During the Month of June, 1819.

Day	Fahrenheit's Thermometer.			Prevailing Winds.	Water fallen by rain.	State of the Weather.
	Sun rise	2 P.M.	10 P.M.			
1	61	72	58	W. N. W.		cloudy : P. M. fair
2	55	73	60	W. N. W.		clear, pleasant
3	59	76	61	N. W.		same
4	62	84	68	S. E.		same : warm
5	65	88	74	West.		same
6	70	92	78	S. E.		fair : very warm
7	67	90	78	W. N. W.		fair : hot
8	70	92	79	W. N. W.		same [gust
9	70	94	68	West.	2-10 inch.	hot, dry, clear : evening thunder
10	69	78	67	East.		cloudy
11	65	78	73	E. S. E.		same [ning
12	69	86	69	S. E.	1-10 inch.	cloudy : light showers in the mor-
13	67	75	65	S. E.		fair
14	57	77	59	S. E.		clear
15	54	76	70	S. E.		same
16	68	79	73	South, S.E.		same
17	67	88	76	S. E.		clear : hot
18	72	93	80	S. W.		same
19	72	82	69	N. W.		windy, dusty
20	58	75	63	N. N. E.		clear, pleasant
21	55	82	70	S. E.		clear
22	61	82	72	S. E.		clear
23	63	90	70	S. E.	6-10 inch.	clear : thunder gust in evening
24	64	80	66	N. W.		fair
25	60	85	68	N. N. E.		same
26	61	84	70	N. W., S.E.		same
27	60	89	74	N. W., S. W.		clear, hot
28	70	94	72	N. W.	3-10 inch.	clear, hot : evening thunder gust
29	69	88	75	S. W.		fair : P. M. cloudy
30	70	87	73	E. S. E.	1-10 inch.	fair, windy : P. M. showers

State of the Thermometer at 2 P. M.		Prevailing Winds.	Water fallen by rain.
Highest 9th 94°.	Fair days 25	N. W. qr. 9 days	1 3-10 inch.
Lowest 1st 72°.	Cloudy 2	N. E. 3	
Mean 83°.	Rainy 3	S. E. 14	
		S. W. 4	

METEOROLOGICAL OBSERVATIONS,

During the Month of July, 1819.

date	Farenheit s Thermometer.			Prevailing Winds.	Water fallen by rain.	State of the Weather.
	Sun rise.	2 P.M.	10 P.M.			
1	58	82	70	N. W.		clear, pleasant [sant
2	61	78	64	N. W.	1-10 inch }	showers of rain, then clear & plea-
3	57	73	60	W. N. W.		clear: P. M. small shower
4	55	83	69	N. W.		clear, pleasant
5	62	78	63	N. W. S. E.		clear, dry
6	52	77	62	N. W. S. E.		same, cool
7	55	78	70	N. E.		fair
8	64	86	70	S. E.		fair
9	68	91	76	S. E.		fair: hot
10	70	93	78	S. S. W.		clear: hot
11	73	94	72	S. S. W.	1-10 inch	hot and clear: P. M. small sower
12	69	92	78	S. W.		clear: hot
13	67	90	78	S. S. E.		same
14	70	90	80	S. S. E.		same [with heavy rain
15	75	88	76	S. S. W.	1-10 inch	sultry, hot: P. M. thunder gust
16	63	91	74	W. N. W.	4-10 inch	clear, hot: showers in the night
17	68	82	72	W. N. W.		fair and pleasant
18	61	80	67	N. E.		same
19	65	78	69	N. N. E.		overcast: P. M. clear, pleasant
20	57	81	71	S. E.		fair
21	62	73	73	S. E.		fair: clear
22	64	88	74	S. S. E.		clear: hot
23	65	82	73	S. E.	1-20 inch	cloudy, at night rain
24	70	80	76	E. N. E.		overcast: drizzly
25	73	88	76	S. E.	5-20 inch	fair: thundergust during night
26	71	88	73	S. S. E.	2-10 inch	fair: P. M. showers
27	69	87	72	S. S. E.		fair: hot
28	60	91	79	W. S. W.		same
29	68	93	77	W. N. W.		same
30	71	95	82	W. S. W. S. E.		same
31	72	96	85	West S. E.		same

State of the Thermometer at 2 P. M.			Fair days	30.	Prevailing Winds.		Water fallen by rain.
Highest	31st	96°			N. W.	qrs. 7 days	
Lowest	3d	73°	Cloudy	1.	S. E.	14	2 2-10 inch
Mean		85°			S. W.	6	

**METEOROLOGICAL OBSERVATIONS,**  
**During the Month of August, 1819.**

Day	Farenheit's Thermometer.			Prevailing Winds.	Water fallen by rain.	State of the Weather.
	Sun rise.	2 P.M.	10 P.M.			
1	80	90	85	West. S. E.		clear, hot
2	75	95	83	W. N. W. S. E.		same
3	76	95	72	N. E., S. E., N. W.	8-10 inch	same: P. M. thundergust.
4	68	82	73	N. E.		fair, pleasant
5	66	81	73	N. E. calm S. E.		same
6	66	84	76	S. E.		fair
7	72	88	80	East W. S. W.		fair: hot
8	73	92	79	W. S. W.		same
9	74	90	80	W. S. W.		same
10	73	93	80	N. N. E., S. E.		same
11	71	93	78	S. W.		same
12	71	95	80	S. S. W.		same
13	72	94	84	S. E.		same
14	72	98	81	N. W. S. E.		same [rain in night
15	78	93	77	S. E. West.	1 8-10 inch	same: P. M. thundergust, heavy
16	72	88	76	East: South.	5-20 inch	overcast: sultry: rain at night
17	75	84	74	W. N. W.		showers
18	73	75	73	N. N. E.		cloudy, rain
19	66	84	74	N. W. S. E.	3-10 inch	clear, pleasant
20	67	83	75	S. S. E.		same
21	65	84	74	S. S. E.	1 inch	sultry: showers
22	74	86	78	S. S. W.		strong wind: overcast [day
23	69	73	58	north w. n. w.		cloudy morning: clear & pleasant
24	53	70	63	N. N. E.		fair
25	53	73	62	N. E., S. S. E.		fair, cool
26	58	74	66	N. N. W., N. E.		same
27	61	68	64	N. E.		cloudy
28	60	70	64	N. E.	3-20 inch	same: showers
29	59	85	72	W. N. W.		clear
30	66	78	71	East.		fair
31	68	79	72	E. N. E.		cloudy: P. M. fair.

State of the Thermometer at 2 P. M.		Prevailing Winds	Water fallen by rain.
Highest 14th, 98°	Fair days 26	N. W. qr. 3 days	4 3-10 inches.
Lowest 24th, 70°	Cloudy 4	S. E. 14	
Mean 84°	Rainy 1	S. W. 6	

These degrees of heat subjected us to the full influence of a tropical climate; it cannot therefore be wondered at, that the endemic of the tropicks should appear among us. It is a fact of common observation that throughout the middle and northern States the same degree of heat usually prevails during our summer season, hence the disease made its appearance in Boston, New-York, Philadelphia and Baltimore nearly at the same time. In the three first named cities, its progress was happily arrested, with the exception of New-York, where the remote cause seems to have existed in a stronger degree.

Moreover, this disease was not confined to the sea ports, for on the borders of many of the streams which flow through marshy situations and empty themselves into the Chesapeake and Delaware, the ordinary bilious remittents of the climate put on the aggravated form of bilious remittent Yellow Fever.\* The southern section of our country has been devastated in a remarkable degree. At New Orleans the noxious exhalations generated by the climate seems to have exceeded in force those of any other year since its cession to the United States; so powerful were its effects we are informed, that the Creoles of the country, who are usually exempt, suffered from its influence, and although the City was so generally deserted that not more than eight thousand of its inhabitants remained, three thousand were its victims. Throughout the Valley of the Mississippi, along the courses of the streams that empty into the Gulf of Mexico as high as the Frontier Military Posts of the United States, its ravages have extended. This forms a melancholy contrast with the mild and salubrious summer and autumn of 1816, which preserved universal good health through every section of our country.

It would be useless here to prosecute the enquiry further, enough has been said to establish the facts which I have stated. It cannot, however, be denied by any, that the most intense heat of climate is not capable of itself, to produce a disease like Yellow Fever, yet it is the great agent, which operating on certain causes, produce effects so fatal to the population of this country.

Of these causes, which are *local* in their nature, I shall only notice such as seem to me to have been the most prominent in ori-

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\*Several cases of Yellow Fever occurred in this City in persons who visited the marshy situations about the Patapsco and Chesapeake. These persons had held no communication with the infected districts of the City, the disease had the same character and was attended with the same mortality.

ginating the late malignant fever of this City. If my observation is not correct, I trust the errors will be pointed out by those whose opportunities of judging were so much more extensive.

The Yellow Fever has been observed always to appear in those parts of Cities that are low and abounding in filth and stagnant water, about unpaved and dirty streets, the wharves, alleys, nooks, and confined places. The late appearance of the disease in this City having tested this truth: I shall now proceed to point out the local causes under the following heads:

1. The unpaved streets and wharves which have been gradually filled up by the accumulation of putrescent materials; such was the case with Wolfe street and some of the adjoining wharves where the disease commenced, and had been observed to make its appearance during the warm season for some years past \*

2. The state of the wharves. These being formed by encroachment on the harbour were incorrectly filled in with wood; the facings, which were also composed of logs, by gradual decay have admitted the water, thereby forming subterraneous pools. This was discovered by a recent inspection of Carr's wharf. If the sun can at any time penetrate here with sufficient power, the most noxious vapours must be exhaled. May not this have been the cause on Smith's wharf?

3. The accumulation of filth in the docks. Nearly all the animal and vegetable matter accumulated in the streets of the City is conveyed by the sewers and gutters into the Basin. This mass of water unfortunately has not a sufficiently free circulation and dur-

\* It must be observed, that the remote cause of Yellow Fever is often generated in situations where putrescent and fermenting matters abound, by a few days or weeks of ardent heat with the addition of some moisture.— Thus we frequently see in the low dirty streets of our cities or about their suburbs, in the neighbourhood of Brick Yards, and ponds, cases of high toned bilious remittent or intermittent fever taking place when heavy showers have been succeeded by intensely hot sun. Several cases of Yellow Fever occurred in the neighbourhood of Wolfe Street in 1817 and 18, and were then correctly attributed to this cause. But the miasmata thus produced, both as it respects force and quantity and its capacity for diffusion through the surrounding atmosphere would seem to depend much on the general character of the climate. That it existed at the commencement at a few points in a highly concentrated form, there can be no doubt. Nearly all those who first received the poison died, and its effects could be traced with the direction of the wind up one street, or with a corresponding change across to another, until it impregnated the atmosphere of two-thirds of Fell's Point.

ing the calm seasons it remains nearly stagnant. If not kept sufficiently deep, those substances which are received into the docks may prove a source of malignant fever. This I infer, from what was observed during the prevalence of the South East winds in August last. The fish, which usually dwell in the mud of streams, became so much affected by some change in their natural element, that they were seen rising to the surface along-side of the wharves in an almost lifeless state. And bubbles containing gas which had the smell of Sulphuretted Hydrogen were constantly rising and discharged on the surface of the basin near the wharves.

4. The right assumed and too often exercised by many individuals of retaining filth and offal of every description about their dwellings, or permitting water to remain in their cellars, which occasionally prove offensive to a whole neighborhood. This is a too common source of disease.

5th and lastly, The atmosphere at the Point was much vitiated by the pumping of the bilge-water, and the discharge of the foul ballast of the Ship United States which arrived at this City in August with passengers from Amsterdam. This ballast was discharged on one of the wharves near Pitt street, where it remained exposed in an almost putrid state, under the heat of a burning sun until removed by order of the Corporation. The disease which previously commenced in that section of the City increased afterwards, both in extent and violence.\*

Any one of the causes above enumerated was sufficient of itself, but it is most probable, that they all conspired to produce the lamentable effects which attended the epidemic of 1819.

It now remains for me to answer that part of the enquiry which relates to the most effectual means of preventing the recurrence of a calamity so fatal. These means are,

1st, An energetic police vested by the constituted authorities with such powers as will enable them, where the welfare and safety of the whole community are endangered, to act promptly and effectively, in the removal of persons and property.

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\* Much being said with regard to the state in which the ballast of the ship United States was discharged, it is proper for me to remark that it did not come under my own inspection, but the authority on which I have made the above statement is from the report of the committee who were appointed by the District Medical and Chirurgical Society to examine nuisances and report the same to the Corporation.

2d, The attention which should be given to the docks and wharves. The former should be cleansed during the spring by the machines used for that purpose; and the latter, more particularly where their situations are low and wet, should be filled up with fresh earth and paved: and as soon as practicable faced with stones, similar to the new wharf on Pratt Street. This last will be a most important improvement.

3d, Those streets, lanes and alleys which are unimproved, more especially such as are in the vicinity of the docks, should be opened during the winter, dug out, and cleansed: in the spring, filled up with fresh earth and paved. Those already paved, which retain water should be raised, and an increased attention paid to the gutters and sewers. In the large Cities in Europe, great and mortal epidemics have disappeared by a strict regard to these circumstances.

4th, The most rigorous measures should be adopted to prevent ships in a foul condition from coming up to the City, before they have been properly ventilated. Dr. Rush asserts, that the Yellow Fever which prevailed in Philadelphia in 1797, and was confined to the districts of Southwark, and Kensington, was owing to the foul air of two ships, one from Marseilles, and the other from Hamburg, which discharged in each of these sections of the City. The disease of that year was limited in its extent to the districts in which it first made its appearance.

5th, Particular regard should be paid to the storing of the large quantities of timber, in the various lumber and ship yards. These masses of vegetable material can do no harm if they allow of free ventilation, and are not deposited in situations where they are immersed in water.

6th, As the City extends, lots should be procured by the Corporation, as public squares, to favour the free circulation of air. I would particularly recommend the planting of trees generally; for this purpose, some of our forest trees which are highly ornamental, may be introduced, they would prove eminently useful in purifying the atmosphere, and would afford shade during the summer. They should be under the care and protection of the Corporation and such ordinances made as would ensure them from injury.

7th and lastly, It has been observed by Count Volney that "the Americans boast with little reason of their general cleanliness, for the suburbs and quays of some of our cities surpass in public and private nastiness, any thing he ever saw in Turkey, where the atmosphere is salubriously dry."—Is this the fact? Be it, or be it not, we are bound by all the laws of humanity and interest to per-

petuate it as a libel by a strict and constant attention to universal cleanliness, both public and private. For this purpose I shall propose,

1st, Additional heavy penalties, to be laid on all citizens for retaining about their dwellings or manufactories, offensive matters of any kind.

2d, The more general diffusion of the Hydrant water in those parts of the City, where water from the City Springs, or from pumps that are pure, cannot be easily obtained—It should be universally adopted for culinary purposes.

3d, An increased attention in watering the streets during the warm months.\* May not streams be brought from the neighbouring heights, through aqueducts at a small expense, so as to furnish every part of the City with refreshing fountains?

In reply to the question touching the contagious nature of Yellow Fever, I give it as my decided opinion that the disease is under *no circumstances contagious*, and that during its prevalence here no case can be adduced to prove it so—on the contrary, no instance occurred where persons infected by breathing the noxious exhalations in those parts of the City in which the disease originated, many of whom took refuge, and died, among their friends in the most populous districts that were not infected—not a case, I repeat, and they were numerous under the worst grade of the disease, imparted it to their attendants.

In the City Hospital to which patients were daily removed, paupers in filth and rags, many of whom died shortly after their admission into the house, and under all circumstances the most favourable to spread the infection, neither physicians, nurses, or attendants or any person in this large establishment, received the Yellow Fever.

These facts have led to the following conclusions on the system of Quarantine regulations of the seaports of the United States.

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\* This custom adds much to the comfort of our citizens during the warm months, and is perfectly salutary when attention is paid to keep the streets which are watered free from filth of every description; if the streets be unclean, the addition of moisture will accelerate the putrefactive fermentation and give origin to the cause of disease—Let it be remarked however, that there ought not to be a street in any of the cities of the United States (if they wish to remain free from pestilential fevers) so dirty, as to incur this risk, for the dews of night, or the rain which descends from Heaven to moisten and refresh the earth may bring for them the seeds of misery and death.

1. That where they have been instituted to prevent the Yellow Fever from being *imported by contagion* they are oppressive and injurious to the Commerce of the country.—But,

2. They are essential and should be preserved under the strictest rules to prevent the admission into our ports of ships with cargoes in a perishable state. Every large seaport should have at a proper distance, docks and storehouses, where vessels of this description, and all vessels arriving in a filthy condition should discharge and be properly ventilated.\*

In submitting the foregoing observations to your attention, I have endeavoured to perform a duty I owe my fellow citizens, unbiassed by favour or interest, they are the best result which I could arrive at for their welfare.—I trust they will prove both satisfactory and conclusive.

If the great Author of nature has ordained that in those laws which regulate matter, certain causes shall produce effects, the agency of which is destructive to the life he has given; so in his unceasing wisdom and kindness, has he shed the light of reason on man, which improved by his industry, enables him to obviate the dreadful effects which result to his happiness, and existence from derangement in the physical structure of that globe, on which he is destined to live “The means of preventing them,” says one of our celebrated countrymen, “are as much under the power of human reason and industry, as the means of preventing the evils of lightning and common fire”—Guided by these noble handmaids, as the chief magistrate of a rising and flourishing community of enlightened freemen, may it long be your enviable station to dispense to them, health and happiness.

P. MACAULAY.

*North Gay Street, December, 1819.*

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\* After this communication had been presented to the Mayor, I received and read with much interest and satisfaction the statement by Dr. Pascalis of the occurrences connected with the appearance of the malignant Yellow Fever in the City of New York.

The similarity of our observations on the production of the cause during the past summer is deserving of much attention. Dr. Pascalis' statement is richly entitled to the high consideration due to the record of a learned and eminent physician, whose judgment has been matured by extensive travel and research into the climates, in which the Yellow Fever makes its ravages, both in the old and new world.

BALTIMORE, December 29th, 1819.

DEAR SIR,

YOUR Circular, officially addressed to me as one of the Medical Faculty, from whom you request Answers to several Queries, would have been sooner acknowledged, and received that early and respectful attention which I am anxious to pay, had I not met with so many interruptions from business, &c.

As I had declined attending on Fell's Point during the prevalence of the malignant disease of last season, I am not so well enabled from personal observation, at that time, to answer those queries, perhaps, so much to your satisfaction, as some other physicians who were more immediately in practice in that part of the City, and who, with other Physicians of the City will supply my deficiencies. Dr. Page was much engaged from its commencement until its termination—On his information I can confidently rely, having been connected with me in business from the year 1808 to 1816 and had an opportunity of seeing the same disease in 1808, which originated and was located in the same street, viz. Pitt street, in its most malignant form—A prompt removal of the inhabitants by my advice at that time, no doubt saved many lives; all other parts of the Point, and City generally (as in the last season) with the exception of Pitt street, remained in unusual good health.—I have therefore sir, no hesitation in asserting that the disease of last season was a Yellow Fever, similar in its causes, symptoms and cure to the Fever of 1794, 97 and 1800.

It appears to be generally acknowledged, that this is a disease peculiar to most seaport towns in hot climates and originates from domestic sources of vegetable putrefaction; and is not contagious, or communicable like other infectious diseases, out of the range of its atmosphere.—The Small Pox and Measles, &c. so universally known to be infectious, can be carried to any distance from its source in all seasons, and states of atmosphere; but the Yellow Fever exists only in hot weather and extinguished by frost—Although with all the pains that can be taken by a vigilant Board of Health, we cannot calculate upon keeping clear of occasional visitations of this distressing malady; yet it is reasonable to expect that much may be done to prevent its occurrence, by a persevering attention to the removal of nuisances in the City, and foul ships after long voyages, or crowded with passengers, from our wharves.

There is great reason to ascribe the first cases of our late sickness, to a ship which discharged her whole ballast on Price's wharf at the lower end of Pitt street, which was so foul and offensive, that many in its vicinity were seized with immediate vomiting and sickness; and an alarming Fever was soon perceived to be

prevailing in that neighborhood with great mortality—This ship called the United States had been on a long voyage to the East-Indies and returned by way of Holland, where she took in upwards of two hundred passengers, and arrived here about the middle of August, and shortly afterwards hauled into Price's wharf, and began to discharge her sand ballast, which, as the vessel made much water, was in a wet state, with much damaged rice and other putrid vegetable substances, (refuse vegetable stores, perhaps, laid in for the passengers) mixed with it: this offensive stuff lay on the wharf for two or three weeks under a hot sun and continued dry weather; and was finally hauled away in carts through the streets; the result was as before mentioned, from about the 26th of August till the commencement of frost.

The nuisances in the City are of various kinds and have been a subject of much discussion, what is, and what is not a nuisance of dangerous tendency: it would however, I think, be erring on the safe side, to remove as much as possible, those which powerfully affect one of our senses in particular.

It appears to me that a prominent source of disease at the Point (as I have observed the Fever in 1808 and this year, originated in the same streets and equally local in its operation and influence, travelling round what is called Morgan's Cove, and up those streets leading thence, viz. Wolf street and Ann street,) is the vast quantity of green timber with which the shores are lined, half covered with water, during the hot season, the unavoidable consequence of Ship Yards in the City.

I have thought some better regulations might be adopted in respect to privies; in many instances of confined yards, they are placed so near the back door that you may smell them as soon as you enter the front—in such cases, perhaps, shifting boxes or drawers running on pullies, would be an improvement, which should be emptied every week in summer and monthly in winter: they are very generally used I am told, in New York; and I was informed by Colonel O'Donnell in his life time that while in Calcutta, the same method was adopted, and with supposed advantage to the health of the City.

Would it not be advisable to add two Physicians to the Board of Health, one on the east and one on the west side of Jones' Falls—It is worthy of remark, and an encouraging circumstance, that the mode of treating this Fever is so well understood, by the Physicians of the present day, if immediate application is made, I verily believe not more than one in twenty, in the aggregate, would die, and where they have the chance of nursing and necessaries, a still less proportion.—Dr. Page assures me, he lost but

five out of ninety—I had about twenty cases of the fever, in Bank and Gough streets, and in families that had removed into the country, all of whom recovered; although from my experience I may assume some degree of merit in the method of treatment, I have the candor to allow, that those cases, the former being contiguous and the latter remote from the contagious atmosphere although capable of being traced to the same causes, were modified by a purer air, into a milder form, and consequently more manageable.

I cannot conclude this letter without craving your indulgence and availing myself of this opportunity and the advantage of an old acquaintance, to remark further:

In the former years of this Fever's prevalence, it will be remembered, I resided on the Point, and was the only Physician with four assistants who kept the field; and as it was a post of danger, should have been the post of honor, but I have reason to regret it was not so to me, for notwithstanding the great increase of labour and expence, risque of life, and anxiety of mind, during those scenes of horror and dismay, and while I was visiting and prescribing daily for six weeks in each of those years for eighty to one hundred and twenty, I never received any aid or was honored with a public testimony of thanks for my exertions and future encouragement—The possibility that similar scenes may yet occur, although it may be deemed a supererogation, induces me to bring into view, whatever may be of use to those who come after me.

When my own trials and the distress of others are brought so fresh to my recollection, my heart is filled with devout gratitude to the Supreme Ruler of Events, who spared my life to my family and who caused the pestilence to pass over and around me unhurt; and a sincere belief that I was made his instrument for the saving of many lives, and comforting even the dying, seeing they were not left without human aid, supported me above all pecuniary consideration, and is at the present moment a consolation superior to all worldly praise or compensation.

Wishing you many happy returns of the season,

I am,

Very Respectfully

Your obedient humble Servant,

JOHN COULTER.

*Edward Johnson, Esq. Mayor.*

BALTIMORE, February 13th 1820

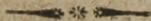
DEAR SIR,

THE Communication I had the pleasure to address you on the topics indicated by your note, was never intended to assume a public form, but if it can serve as an auxiliary in the promotion of the laudable object announced in your present request, I cheerfully waive all objection on the score of its imperfections, and leave you at liberty to use it as your judgment may direct.—  
*I beg however to have the sheets deposited with me for correction.*

Very Respectfully,

T. H. WRIGHT.

*Edward Johnson, Esq.*



DEAR SIR,

I regret that it is not in my power to make such a return to your note, as will be likely to aid the important and laudable purpose which prompted that communication.

The point of my residence, (the northern extremity of Liberty street) renders it improbable that I should see much of a disease arising chiefly at the southern limits of the City, and confined for the most part, to the immediate vicinity of its source of origin. Accordingly but few cases of the late Epidemic (or rather Endemic) fell under my observation. Those cases occurred in persons under common circumstances, and of whom nothing was known which might occasion a liability to suffer from the disease, farther than their residence within the infected district: they were nearly all residents of Fell's Point, who had removed upon the first occurrence of the disease in their families. A few cases of aggravated Bilious Fever (commonly termed malignant) occurred in persons resident on the western border of the City, but such of those cases as were submitted to my care, were unequivocally traceable to habits of much intercourse with those places where the cause of the disease was peculiarly operative.

The different specifications of your First Query have thus been answered very briefly, but as clearly as my limited information on the subject will allow. Some of its topics embrace a field of speculation spacious and interesting, but over such ground it is pos-

able to travel far without collecting much to reward the labour of pursuit.

On the second head of your enquiries my incapacity to advise, would perhaps render total silence most becoming ;—It contemplates the prevention in future of those formidable evils, by which we have recently suffered ; and certainly the complete occlusion of a calamity fraught with so many political and social ills, is an object worthy all the energies, and all the industry, which may in any degree favour its accomplishment. Considering it probable however, that opinions on this subject will be copiously furnished, by gentlemen better acquainted than myself with those *local* considerations from which correct practical inferences must be drawn, I think it becoming, to avoid all recommendation of particular measures, for precautionary security. The malady against whose renewed incursion, we are meditating an effectual barrier, is an indigenous product ; It has its birth place among us, and we must look to *domestic* circumstances, for the means of contravening its existence and propagation. It frequently happens that the active sources of Endemic or Epidemic diseases may be located with precision, and it is fortunate that they are commonly confined within narrow limits. This consideration while it encourages the hope of obviating their growth, leaves us dependent for success, upon a careful survey of the places of their prevalence. That survey in relation to the late scourge of Fell's Point, I have had hitherto neither motive nor opportunity for making, and the necessity for such an undertaking at present, appears to be obviated, by the suggestion antecedently made, viz. that this part of the subject will receive all the discussion it merits, from gentlemen well qualified for the task by much personal observation.

Before leaving this part of the subject, I might direct your notice to a few practical considerations of some weight, but in which I have been most probably anticipated by your own reflections, or the suggestion of others.

It is in the first place, undoubtedly important to select a proper period of the year, for conducting this work of prevention, so far as it consists in the removal or correction of nuisances : It is equally clear, that the best season for undertaking such a work is when the temperature is *too low* to favour the production and diffusion of noxious vapours. The winter and spring are the only time, (a few weeks of autumn excepted) when such work can be carried on extensively, without danger to those concerned in it, or those by situation exposed to its consequences.

Secondly ; Wherever it becomes necessary to obviate the accumulation of dangerous materials, by filling up places likely to be-

come depositories of such ingredients, it is desirable, nay indispensable, to use articles neither containing themselves, the elements of future mischief, nor having any capability of being made the instruments of offence. For this purpose I know nothing so much within reach, and at the same time so effectual, as *sand* and *gravel*; and the more free from foreign mixture, the better.

Thirdly—It will no doubt be thought necessary to look well into the state of our wharves and docks. To prevent the discharge of putrescent materials (especially putrid *vegetable* substances) on our wharves, is an object worthy all the attention that can be bestowed upon it. Those articles may under favourable circumstances produce serious local pestilence; though perhaps not likely to extend far.—It is not less, perhaps still more important to attend to the condition of the docks. If it shall be found practicable (and the work appears easy) to disincumber the heads of the latter from those collections by which they are partially filled up, and a body of foul matters occasionally or constantly exposed to the action of the atmosphere, all will have been done, in relation to them, that is either feasible or necessary. A surface (whatever be the substances) *uniformly covered by tide water* (or any water frequently changed) never did, and never can, seriously invade health.

Your concluding enquiry, in relation to the late Fever, regards the question of contagion. I have been long satisfied, both from the nature of the disease, and from multiplied facts falling within my own observation, that it is wholly unsusceptible of communication from one body to another; the only medical meaning affixed to the term contagion.

If I were at liberty to speculate on the probable healthfulness of our City generally, I should express a strong conviction that it is destined to enjoy a long and happy exemption from Epidemic Maladies; or diseases of a diffuse and extensive prevalence. In looking carefully through the City I can discover no causes likely to create or foster Epidemic agents;—The natural sources of those gaseous poisons which perform the work of Epidemics, cannot now be found among us; neither does there appear to be any depositories for the probable accumulation of materials constituting a fomes, whence those poisons could issue with sufficient intensity, to inflict a sensible wound upon health. A becoming regard to cleanliness, inculcates the necessity of removing impurities from our streets, lanes, alleys, &c. but it is not from partial accumulations of this sort, we are to derive serious or general maladies; Those things offend the eye and annoy the nose, but they do not strike at life. The laboratory of pestilence, must be more spacious; must be furnished with materials more abundant, and more fruitful of poison. Whatever may be the commercial advantages,

the gain or loss on the score of economy, which the recent extension of Pratt and South streets may involve, the effect in relation to health, must be great and unequivocal. The low ground through which South street penetrates, was the only extensive natural reservoir, within the City, of stagnant fluids and putrescent deposits: The whole of that district is now rising to the grade of Belvidere street, and must cease to send its noxious products, among the surrounding inhabitants. Pratt street by shutting up all the docks which indented the City in its course, has closed the door upon many copious springs of pestilential vapour.

Although in seasons peculiarly unpropitious to health, we may have the causes of Fever generated among us to a limited extent, it is nevertheless extremely improbable, that even in such seasons, they can strike a blow that shall be extensively felt. Those remarks all apply to that great section of the City lying west of Jones' Falls;—In all the space thus contained I am unable to point out any spot (except perhaps a few places on the margin of the Basin) likely to become a magazine of those miasmata whence Epidemic Fevers arise, and even those exceptions could under no circumstances operate injuriously, beyond a very narrow range. As however all places of this sort are certainly subject to the effectual control of a little well directed industry, they ought not to stand as exceptions to the general argument of probable healthfulness. Of that portion of the City, lying East of Jones' Falls;—and especially of Fell's Point and its immediate vicinity, I am not prepared to speak. Business or curiosity have rarely led me in that direction, and I am ignorant of every thing except its general features. Its natural circumstances are unpropitious to health, and I am afraid its inhabitants must occasionally encounter serious annoyance in this particular, before the efforts of art, or the progress of improvement, can interpose an effectual and permanent remedy. Whenever these shall have advanced so far as to have displaced from the surrounding spaces, the features of a *morass*, by substituting universal solidity and dryness, we may then, and only then, look with confidence for its complete exemption from those unhappy casualties, which we have already so much reason to deplore. The great value of this appendage to the City renders its defective healthfulness deeply to be regretted; while the claims of that useful citizens call for every exertion which may tend to obviate the recurrence of its late calamities.

I ought in conclusion to request your indulgence for the tardiness of my attention to the subject you have done me the honor to submit to my consideration— an unusual degree of occupation for some days past obstructed my desire to pay it all the respect claimed by its importance, and due to your wishes. Its consi-

deration was postponed in the hope of finding leisure to give it the most mature examination, and if possible to contribute in some degree to the attainment of an object pre-eminently interesting.— That leisure I have not found; but after much delay, have at last written at interrupted intervals, and on a subject to which unfortunately I could bring but a slender stock of practical knowledge. What I offer however, will I am sure be received as an earnest of my respect for the claims of humanity, and the interests of our City.

Very Respectfully,

T. H. WRIGHT.

BALTIMORE, February 15th, 1820.

SIR,

IF the communication made by me, respecting the late Fever, can in the smallest degree subserve your purpose, you are at full liberty to have the same published.

I am with respect,

Your obedient servant,

J. B. TAYLOR.

To EDWARD JOHNSON, Esq.

*Mayor of the City of Baltimore.*

BALTIMORE, December 26th, 1819.

SIR,

IN answer to your Circular of December 1st, requesting my opinion of the causes of our late Epidemick, I beg leave respectfully to observe, that what follows, is the result of impressions produced in the year 1805, when a student of Medicine, and residing on Fell's Point, and since strengthened by further reflection. I will not assert that the opinions are conclusive, yet they please myself, and I believe they will be found as correct as any that have preceeded them.

1st, The cases of "*Bilious Malignant Fever*" that first came under my care, were principally situated on the borders of the Cove that connects the Town to Point. Two thirds at least, were females of industrious habits, and who were very seldom beyond the limits of their immediate neighbourhoods; and who must have contracted the disease, from causes existing, in those neighbourhoods.

2d. Among the causes of Yellow Fever, Physicians have long enumerated a miasma, the result of animal and vegetable decomposition. That animal matter, suffering decomposition, may become capable of generating this gas; if I do not deny, yet I think it sufficiently obvious it had but little agency in producing the cause of our late Epidemick. It would be a libel on our vigilant police, to suppose that masses of animal matter could be suffered to accumulate in such quantities as to endanger the health of our City, and I think it but right to observe, that if masses of putrid animal matter, could *alone*, produce this disease, we should not have heard of Yellow Fever last summer, and we would be enabled, effectually, to prevent its recurrence for the future. We find that persons, whose occupations constantly expose them to an atmosphere highly charged with the result of animal putrefaction, such as Butchers, Gluemakers, Tanners, &c. enjoy a greater

portion of health, during sickly seasons, than those who breathe a more agreeable atmosphere. I have never been able to trace Yellow Fever to their neighbourhoods, but on the contrary, have always observed them to be more than others exempt from its ravages. This is not a recently observed fact; for Ambrose Parey tells us, that a Plague (or Yellow Fever) which ravaged one of the Cities of Italy, was checked in its progress, by killing all the dogs and cats of the town, and suffering them to putrefy in the streets. Thus then, I reject the idea of animal origin, and although what I conceive to be the true cause of the disease, is not more difficult of access, yet old errors are stubborn things, and the doctrine of vegetable origin, will have to make proselytes *vi et armis*.

From the foregoing, amongst a host of other considerations, I am induced to believe that the *principal, or sole cause*, of our late *Epidemick Yellow Fever*, to be, a *Gas*, THE PRODUCT OF VEGETABLE DECOMPOSITION, evolved in such quantity and highly concentrated state, by a long period of intensely hot weather, with such a degree of moisture only, as was necessary to its formation.

Such being my opinion of the cause of the disease, I beg leave to call your attention to some of the sources of this cause. In doing which I commence with all that portion of the City beginning at M<sup>r</sup> Eldery's dock and extending eastwardly to Fell's Point, embracing a Cove of almost one mile in extent, completely glutted with rafts, spars, plank and an excess of vegetable matter of every description—Reflect that it has laid in this situation for years, and that the evil continues to encrease with each succeeding year—that it is exposed to the alternate action of heat and moisture and that of necessity there must be an immense quantity of this miasma evolved, when we view the extent of its mischievous laboratory—Examine the situation of our wharves and the edges of our extensive Basin. How were our wharves constructed? I have been informed, by an indiscriminate mass of cord wood, chips, shavings, and an endless variety of vegetable substances jumbled together, so as to admit as much tide water, as will favour their decomposition, and the consequent formation of this deleterious Gas. This fatal error seems to prevail in all attempts to “*make ground*,” and is as pernicious in principle and fatal in effect, as it would be, to raise the scite of a Military station, on alternate layers of earth and gunpowder.—New York, and the little towns of Blakely and Mobile furnish ample proofs of the fatality of this general error. Under these circumstances, when can we expect a deliverance from Yellow Fever?

I should conceive my labour but half done, were I not to point out as objects of suspicion, our numerous *Lumber Yards*. They are, I am fully persuaded, fruitful sources of disease; and I can readily conceive, contributed their full share in producing our late scourge—

Had no yard of this kind existed near Smith's Wharf, we should not have had to mourn the loss of some valuable members of society, nor have experienced any interruption in the commercial concerns of that busy spot.

Having thus sir, stated, what I suppose to be the *most active agents* in producing the cause of our late Epidemick, the means which I would recommend for their removal are sufficiently obvious; but if you please I will bring them under one head.—They are, to avoid the error of using in wharfing, a superfluous quantity of timber, and if practicable to use in its stead, *stone*.—To have removed all decaying timber composing our wharves.—To have an attentive eye to the state of our various lumber yards.—I would wish to see them removed beyond the limits of our City, particularly the populous part, and to let their situations be *high, dry, and airy*. The *Cove* and all other similarly situated spots, to be purged of their noxious contents, so far as the same may be practicable. That all such timber be removed during the cold season, and be piled on high and dry situations so as to admit a free circulation of air through it, in order that it may become thoroughly dry before the ensuing summer. That the *Cove* be as speedily filled up, with pure earth, as circumstances will admit; and that all vegetable matter be intirely constructed of stone.—As it is the practice of most families, to cause to be thrown into the streets the offal of their kitchens, I would recommend that *Hogs* should be permitted to run at large: they are far superior to our scavengers; the former destroy—the latter only encrease, the evil they were intended to remove.—All *Cellars* that retain water, should be cleansed.

3d. I have never supposed Yellow Fever to be contagious; and if I had ever entertained that opinion, an attention to the progress of our late Epidemick, would have convinced me of the fallacy of such opinion.

Thus, sir, have I endeavoured to answer the several interrogatories of your Circular.—Believe me, nothing but a wish to add to the health and prosperity of our City could have induced me to make my opinions publick; and should they, in the slightest degree, have such effect I shall be glad of having communicated them.

I am Sir,

With Sentiments of

Respect and Esteem,

Your most obedient servant,

J. B. TAYLOR.

To EDWARD JOHNSON, Esq.

Mayor of the City of Baltimore.

EDWARD JOHNSON, Esq.

DEAR SIR,

YOU are perfectly welcome to make use of my Communication in the manner proposed, and I only regret that the hurry and brevity with which it is written, will render it less interesting than it might otherwise have been.

With the greatest respect,  
Your obedient servant,

G. S. TOWNSEND.

February 16th, 1820.

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BALTIMORE, December 9th, 1819.

EDWARD JOHNSON, Esq.

DEAR SIR,

AS it always affords me peculiar pleasure in evincing the interest I feel in the welfare of my native City, I cheerfully comply with the polite request, contained in your Circular of the 1st inst. in answering your several interrogatories.

1st. The two first cases that occurred in my practice bearing any marks of a *malignant* character, originated in Commerce street, a few doors south of Pratt street; so early as the 27th of July. These patients were a Mr James Sinclair and wife. The former a Blacksmith by profession and both of industrious and temperate habits. They were attacked nearly at the same period and the symptoms of each were perfectly analagous. They both recovered. From some observations I made at the time, I was inclined to believe that the disease in those persons, had its origin, as well from the confined situation of the house they occupied, as from an accumulation of filth in the yard and neighbourhood, which the sun's rays had rendered a prolific source for the generation of miasma.

2d. I do not remember to have seen any other nuisance, than the one just mentioned that particularly attracted my attention, except in South Frederick street, to which I most earnestly beg leave to call your attention, not only for the irreparable injury that may ultimately acerue to that portion of the City, from its existance, but for the disgusting spectacle it cannot fail to exhibit to strangers, as well as our own citizens.

G

The place to which I allude, is situated between Water and Pratt streets, comprising a nest of houses, tenanted by Negroes, and divided by an alley, very appropriately called "*Squeeze Gut*," if I may be allowed to judge from the quantum of *excrementitious matter* and *stench* with which it abounds! This "*delectable*" spot has ever since my recollection been a scene the most loathsome and abhorrent that the imagination can pourtray; disease and death have year after year, luxuriously rioted among the miserable and abandoned victims, who have there nestled together, and it may not have escaped your remembrance, that during the last summer, considerable alarm and anxiety prevailed in consequence of some cases appearing there, bearing evident marks of the then prevailing Epidemic.

I cannot however take upon myself the prerogative of recommending any other method of obviating the evil than by calling your attention to its existence, for I have sometimes thought, I could satisfactorily witness a conflagration of the whole of those tenements, which would effectually cleanse a place so deleterious to the health and morals of the people.

3d. I cannot believe that the late epidemic, under any circumstances whatever was contagious, and I do not know that I can advance a more striking or positive illustration of such a belief, than by adverting to the cases which came under my observation at the Encampment. Out of the whole number which occurred there, several, either from an antipathy to a removal to the Hospital, or the stage of the disease rendering it improper, were permitted to remain, during which time, no attempt was made towards a separation of the sick from the healthy; on the contrary a free and uninterrupted communication was permitted in all parts of the camp. Strangers were daily visiting it from curiosity or charitable incentives, and yet not a solitary case was known to transpire that could not clearly and unequivocally be traced to the original cause.

Having thus briefly answered your different queries by such facts as I am in possession of, I remain with sentiments of the greatest respect,

Your obedient humble Servant,

G. S. TOWNSEND.

BALTIMORE, December 14th, 1819.

SIR,

IN answer to your queries I shall subjoin a history of the two first cases of the Bilious Malignant Fever that came under my care, during the last fall.

The first case was the wife of James R. Sinners, a delicate female, about twenty-four years of age. She had laid in, I believe of her first child, at her residence in Ann street, Fell's Point, about two weeks before she contracted the Fever. As soon as she was able to bear the fatigue, she was removed to the house of her brother-in-law in Albemarle street, Old Town. The people, to use her husband's words to me, were at this time dying all around his place of residence on the Point. On Monday she was removed, and on the Thursday following, (the 2d of September) the first symptoms of the disease appeared. In a few days this case terminated fatally.

The disease here evidently originated from local causes in the neighbourhood of her residence on Fell's Point.

The second case, was that of Robert Holmes, who keeps a public house in Market Space, and is also a proprietor of Hackney Stages. He is a temperate man, about thirty-four years of age. In consequence of the illness of one of his drivers, he mounted the box himself, and on the Sunday previous to his illness, in a bravao drove through the principal streets on the Point in which the Fever at that time prevailed; On Thursday the 2d of September following, he was taken with symptoms of the Bilious Malignant Fever. After a severe and dangerous illness of two weeks he recovered. I should also have mentioned that Holmes had been several times on the Point, and in the neighbourhood of the infected places during the prevalence of the Fever previous to the Sunday mentioned. The origin of this case I have no hesitation in attributing to some local causes on the Point.

As to what those local causes on Fell's Point may have been, that gave origin to this fatal disease, I can say nothing from my own knowledge, I shall therefore pass it over.

Under the head of *Nuisances* I shall mention two. The first is a large collection of logs, bedded in putrid vegetable mud, and in an incipient state of putrefaction, in the Cove on the rear of M'Eldery's Wharf, which, as the tide ebbs and flows, are some

times covered with water, at other times there is only such a degree of moisture, as when exposed to the violent and long continued heats of the sun, which generally prevails with us in the summer, may prove a fruitful and dangerous source of disease. The other is a collection of Huts and filth inhabited by Negroes in an alley, back of the lower end of Frederick street.

As it regards the contagious nature of the Fever, I can say, that in no instance have I seen a single person take the disease where they had not previously exposed themselves in places infected by the Fever, nor any person attached to the families of those I attended, who took the Fever, although they or some of them were constantly around the bed side while the person was labouring under the disease. I therefore, can confidently say, that in no instance that came under my notice, was it contagious.

With Respect,

I remain yours, &c.

MICHAEL DIFFENDERFFER.

*Edward Johnson, Esq. Mayor.*

BALTIMORE, December 29th, 1819.

SIR,

IN answer to your queries, I beg leave to state that all the cases of Malignant Fever which I visited during the prevalence of the late Epidemic, with only one exception, were distinctly traced to Fell's Point. The greater proportion of these cases were persons whose occupations exposed them to the intense heat of the season.

The source of the late Epidemic is a subject of the greatest importance to the welfare of this City, and therefore requires the attention of all whose opportunities have enabled them to observe the rise and progress of that dire calamity.

The infection of the air which gave origin to this disease was for some time evidently circumscribed within narrow limits, Smith's wharf in town, and Water's wharf together with Wolf and Pitt streets on the Point, were the situations in which its fatal influences were first noticed. The enquiry is immediately suggested, What was the condition of those places at that time? In the rear of Smith's wharf is an unpaved alley made up of dock mud, shavings and other vegetable matters in a state of decomposition.—At Fell's Point similar putrescent materials were found to constitute a considerable extent of made ground in the vicinity, where the first appearances of the Yellow Fever were discovered.

These causes are deemed quite sufficient to have given origin to the disease, but there are many auxiliary causes which tend to render the air of the City unhealthy—First, The logs composing the wharves in many places are in a state of decomposition, so as to be offensive in the warm seasons of the year.—Secondly, Cellars in made ground, which are always liable to be wet or damp.—Thirdly, Vegetable matter deposited therein and undergoing putrefaction—And finally, the nuisances which arise from stagnant water in various parts of the City, together with the accumulation of filth in the streets and gutters, more especially in those parts of the City where the streets have not much descent. We might mention as an additional cause, the stagnant condition of the water in our Basin, frequently becoming so impure as to be destructive to the fish which inhabit it. The remedy for this evil is perhaps beyond our reach, nothing less than a current, produced either by a canal running from the head of the Basin to the waters of the Spring Gardens, or communicating with the Falls, could render its waters innocuous.

The general preventive measures which we would take the liberty to suggest are the following:

1st. Let all made grounds be well covered before the ensuing summer, especially in the vicinities above mentioned, and when they cannot be made dry, let them be ditched or drained.

2dly. Let all the unpaved lanes, alleys and streets be immediately paved.

3dly. Prohibit the filling up low grounds with vegetable substances.

4thly. Let all wharves, or repairs of wharves, in future be constructed after the plan of Pratt street wharf, while the logs which constitute the foundation, are perpetually covered with water, they are not so liable to putrefaction.

5thly. Cellars in made grounds should either be prohibited or the proprietors or occupiers compelled to keep them dry and clean.

6thly. The gutters should be kept clean throughout the year, if the habit be established, they will not be neglected at that period, when they are apt to become offensive and injurious.

7thly. All shipping should be forbidden the practice of throwing putrescent substances on the wharves.

In reply to the question of the contagion of Yellow Fever, I do not know a single instance in support of that doctrine, and I do not believe that any well attested cases of contagion can be adduced from any part of the world where that disease prevails.

With the most respectful consideration,

I have the honour to be yours,

SAMUEL BAKER.

EDWARD JOHNSON, Esq.

CHURCH STREET, December 29th, 1819.

EDWARD JOHNSON, Esq.

SIR,

IN reply to the Queries contained in your Circular of December 1st, I may observe, that the three first cases of Bili-ous Malignant Fever which I saw during the last season, were in *one* family, whose residence was in a healthful part of the Northern Precincts; but these persons had been on board of a schooner (employed in navigating the Chesapeake) for more than three days, while she took in loading at Harris' Creek, and had inhaled during this time the fetid exhalations arising from a parcel of putred wheat, steeped in bilge water, which remained of a former cargo in the "run" or ceiling of the boat: two of them died with black vomit within two days after they landed.

The other cases which I saw, had been removed from that part of Fell's Point near Donnell's wharf after the attack of disease; or had imbibed its causes while engaged in business at or near the same place, or while nursing their friends; and subsequently had the disease at their residences west of Jones' Falls.

In no case and under no circumstances was the disease communicated from a diseased to a healthy body.

Persons of the most *muscular* temperaments and vigorous constitutions, whose occupations were in the open air were more obnoxious to it, and especially drinkers of *ardent spirits*. I am induced to believe that the Malignant Bilious or Yellow Fever of Baltimore, during the last summer and autumn, was *mainly* produced by the putrefaction of water, and also of vegetable matter—And am fully warranted in asserting that it is not *contagious*; that it is of a *local origin*; and that it cannot be *imported* or *exported*.

The Nuisances which chiefly attracted attention were,

1st, On Fell's Point, a large collection of matter which appeared to be principally vegetable, north of Donnell's wharf in an unpaved street, I think called Pitt street.

2dly, The diffusion and retention of the water of the Basin over a large surface of mud and earth in the Coves east and west of the Point.

3dly, The widely extended surface of moist vegetable matter, and the large pools of green and stagnant water, on the point of land west of Jones' Falls, near the Steam Saw Mill.

4thly, Wet Cellars.

5thly, The gutters of the paved streets from neglect to sweep and wash them.

6thly, Grog Shops and Taverns for the sale of ardent spirits.

The recurrence of the disease under a temperature of eighty-two degrees of Farenheit's Thermometer, can only be obviated by removing the sources above noted wherever they may exist.

Very Respectfully

I remain,

Dear Sir,

Your obedient servant,

RICHARD W. HALL.

FELL'S POINT, 16th Feb. 1820.

DEAR SIR,

SEVERE indisposition prevented an earlier answer to your communication of the 9th instant.

You have my free consent to use the communication alluded to therein, for the promotion of any laudable and charitable institution you may think proper.

With sentiments of respect and esteem,

Yours most sincerely,

SAMUEL B. MARTIN.



*Edward Johnson, Esquire, Mayor of the City of Baltimore.*

DEAR SIR,

YOUR Circular of the 1st inst. claims my earliest attention as far as the nature of my professional duties will allow; feeling as I do, a lively interest in contributing to the public good, as far and as correctly as my feeble abilities will enable me; accompanied with the assurance, that my only incentive is, an earnest desire to contribute, my share towards averting a calamity, truly awful, and, in its consequences, much to be lamented.

In answer to the First Query, I shall briefly state that nineteen out of the twenty earliest cases of Bilious Malignant Fever, or Remittent Fever of suspicious character which came under my notice, can be traced in their origin to the water's edge, in other words to be more particular, to the wharves on Fell's Point and the immediate vicinity thereof, as will be seen by reference to the Appendix hereunto attached, which I have faithfully drawn up from personal observation, detailing the habits, places of resort, &c. &c. as far as practicable.

2. To the Second Query, I answer, that my attention to the origin and progress of the late Epidemic Fever, enables me with confidence to advance an opinion that it is of *Domestic Birth*, arising chiefly from the putrescent materials which compose our docks (which have in no small degree encroached on the navigation)

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These materials are left, during the recess of the tides, saturated with water and acted on by an intensely hot and unclouded sun or by the atmosphere in a highly concentrated state, and for want of the interposition of occasional refreshing showers, with which, during our most healthy seasons, we have been bountifully supplied. These causes combine to favour the decomposition of all animal and vegetable matters, emitting exhalations, which in their consequences we shall long have to lament.

Whether the dead and putrid animal matters adhering to the logs composing the wharves have any agency in the formation of miasmata, I will not here undertake to determine; be that as it may, it is well ascertained that vegetable matters in a putrescent, or state of decomposition, are potent and necessary ingredients: But animal putrefaction can be borne or the fumes arising therefrom may be inhaled with impunity, witness the employment of the Butchers in the midst of it. Many Farmers on the banks of our rivers, use putrid fish for manuring their lands and with impunity. But, Bilious Remitting Fever, indeed Yellow Fever has its origin in exhalations from made grounds far remote from the water's edge, as well as in ponds of water, swamps and mill-dams, &c. containing much vegetable matter, exposed to the combined operation of heat and moisture. To corroborate the foregoing position, we have the testimony of the most eminent medical authorities in the United States, amongst whom were the venerable patrons of the science, viz. Rush and Ramsey, (of S. C.) The Medical Repository of New York, the Medical Journals of Boston, Philadelphia, &c. &c. all contain many well authenticated facts in corroboration of the foregoing, all acknowledging the same remote causes.

During the late Epidemic, the tide has been observed to fall three feet: The winds prevailed chiefly from the Southward, and I will also add a remarkable fact, that during the prevalence of a Northerly wind, new cases of the prevailing Fever were less frequent in my practice, and those on hand or under my care were at that time more manageable. The Soldiers stationed at Fort M'Henry, were not attacked with Yellow Fever until the gale (which commenced the 19th September) took place; which shews that miasmata may be conveyed to a very considerable distance by strong and continued winds.

Further, I have to remark that the nigher the occupation or residence of the persons, attacked with the late Epidemic Fever, was to the wharves, the more malignant was the character of their disease.

Europeans and persons from Northern Climates seldom survived the attack of the late epidemic, while, I do not know of one case wherein a native of the West Indies suffered.

As to the *Contagious Nature of Yellow Fever*, I have not in any instance known of a case which would give cause to justify such an opinion. The "Fever Ward" at our Hospital contained many cases of this disease of every stage and degree of malignancy, and there was no instance of one of the Physicians, Students or Nurses, or even of those humane citizens (whose tender sympathies led them thither) who frequented that Institution from motives of usefulness or information, becoming afflicted thereby. But you will, no doubt, have a more correct and particular account of occurrences at that valuable Institution from the learned and respectable gentlemen at the head of it.

A respectable gentleman from St. Michaels (on the Eastern Shore) informed me, that during the prevalence of our late Epidemic; of *five* persons who arrived there from this City, (being attacked by the way) with Malignant Fever and terminating fatally after their arrival, not another person was infected: though they were carefully attended to, and visited by many without restraint. Here was an admirable opportunity of testing its *contagious* properties, if any existed.—Likewise, I will add further proof from personal observation. A number of the families, that were in the habit of employing me as their Physician, removed during the prevalence of the Fever into healthy districts of this City and its environs, viz. to Old Town, to Saratoga street extended, head of Howard street near the Alms House, on the Harford road, &c. &c. &c some carrying with them *one*, others *two*, others *three* and even *four* ill with the (then) prevalent Fever and in *no* instance was the disease, in question, known to be communicated, to any individual who had not visited the infected districts. I might spin this communication out to the length of an essay, were I disposed to collect facts from the most undoubted authority to corroborate the foregoing; but, enough, in my opinion has been advanced, to satisfy even scepticism itself; enough has been advanced to do away entirely the very erroneous, as well as highly injurious opinion, that "The Malignant Bilious or Yellow Fever, is contagious."

As to the *Remedy*. I fear an effectual one will be beyond the reach or powers of our Corporation, and I regret to be compelled to be so bold as to state it. The magnitude of the undertaking, saying nothing of the enormous expence, would be but a mere atom in the scale, whilst we have to combat with *interests* of a private nature, backed by a deep-rooted *prejudice*: It will be

necessary to convince, ere we can convert such as it would seem necessary for our purpose. to a correct view of the subject, before it would be proper or advantageous to suggest a remedy for *existing* causes. But, it is in the power of our corporation to prevent the further formation of *sources of disease* in every section of the City: And I hope it will not be deemed indiscreet or arrogating in me, if, I call your attention to the method (for the future) of building and of filling in the *Wharves* now constructing in various parts of this City; and to prevent vegetable materials, such as logs of wood, shavings, &c. from forming a part thereof and being moistened by the tides, form a prolific source for the generation of Marsh Effluvia, which may become concentrated during a hot summer, and produce all the evils with which we were visited in the ever to be lamented summer of 1819. A wharf constructed below tide-water of stone, and the remainder of large timber, and the *filling in* to be of clay or sand, &c. would, in my opinion, not only be more conducive to health, but be an individual gain, in as much as it would do away the necessity of so much digging out by an expensive *Mud Machine*, thus preserving our navigation. Wharves constructed after this manner, I can venture to say, will, at the end of ten years, be of as little expense to the owners, as those constructed on the present plan, independent of the advantage of good health. The wharves at Fell's Point are not only built of wood, but are filled in with hundreds, nay I may add, thousands of cords of pine and other wood, and the interstices *crammed* with chips, shavings and many other matters liable to decomposition, abundant sources of disease!! The late examination of Kerr's, Waters', and other wharves, exhibited specimens of a composition calling loudly for a corrective. The arks, logs, hulks and wrecks of vessels at the different wharves are also abundant sources of disease.

I must also suggest the propriety of compelling those persons to repair the public streets, in a proper manner, who take them up for the purpose of conducting the water to their property; as well as the Proprietors of the Water Works, near Fell's Point, to repair such streets, as require it, where the large water conductors are laid down, which has been much neglected for eight years last past at least, and forming troughs for the reception of slops suds, offals of kitchens, &c. and holding them exposed to the action of the sun to our great annoyance if not to our very great injury as to health.

The condition of the unimproved parts of Pitt, Wolf, George and Lancaster streets, it would appear require examination as to the manner in which they have been filled in: It appears to me they are composed (to a considerable depth,) of vegetable and

other putrescent materials requiring removal previous to being paved, lest we lock the enemy up.

The owners or proprietors of vacant and other lots should be compelled to have the same filled up so as to throw their waters into the adjacent streets. Many of the gutters of our alleys, streets, &c. are so low that they do not throw off the collections in them from kitchens and other sources, but hold them exposed to the action of the sun.

It must be acknowledged that Hogs are excellent *Scavengers*, I would therefore suggest the propriety of an Ordinance forbidding Hogs to be penned up in styes, between the months of May and November, within the limits of our City, which will correct a very offensive evil, I mean the practice of preserving slops in barrels, tubs, &c. exposed to the heat of the sun and emitting effluvia, if not a cause of disease (which I strongly suspect to be a fact) are frequently very obnoxious to neighbours and passing observers.

I must beg pardon for occupying so much of your valuable time and hope you will do me the justice to impute it to an earnest desire to be useful to my fellow-citizens, which be assured, Dear Sir, being accomplished would be a source of heartfelt satisfaction, as well as the most satisfactory reward required by

Your obedient humble servant,

SAMUEL B. MARTIN.

*Fell Street, F. P. January 4th, 1820.*

## APPENDIX,

*Containing the Earliest Cases of Malignant Fever or Bilious Fever of Suspicious Character.*

No. 1. Captain P—m, Master of British Brig Osgar, at Waters' Wharf, Malignant Fever, attacked 21st July, 1819—a gentleman of steady habits, frequented Waters' wharf and counting house or that of Mayer and Brantz chiefly.

No. 2. W. P. B—s, Market Master, F. P. attacked about the same time with Case No. 1. with violent or Bilious Fever of high grade, of steady habits, his dwelling adjoining Carr's wharf.

Nos. 3 & 4, Mr. G. & Capt. B. Those two cases were marked with malignancy—Both correct temperate men, occupied about Wirgman's wharf and Wolf street. Those cases occurred about the same time with Nos. 1 and 2.

No. 5. Miss B. A young Lady, attacked 25th July with violent Bilious Fever, lived George street, opposite Tenant's wharf.

No. 6. J. W—e. A labourer on board vessels at the wharves, at times intemperate, a blackman, attacked 25th July with Malignant Fever.

No. 7. Miss P. House keeper to Capt. S. Wolf street, one square from the wharf at the eastern extremity of Alisanna street, a violent case and very suspicious—attacked on the 25th July.

Nos. 8 & 9. Miss E. G. and Mr. J. G. Father and Daughter attacked on the 28th July with Malignant Fever of a high and alarming grade—Habits regular, and living in the vicinity of Pitt street.

No. 10. S. Y. intemperate man—occupied about the County wharf, attacked 29th July, terminated in three days—a most malignant case.

No. 11. Mr. S. a free liver—occupied about the wharves—malignant case, attacked 29th July, 1819.

No. 12. Miss K. A correct and upright young Lady, a seamstress occupied in the house of Mr R. Fountain street, at the water's edge. but removed to her father's in Happy alley, attacked with suspicious case (which proved malignant) 31st July, 1819.

No. 13. R. F. Apprentice to G. W. corner of George and Wolf streets, near Wirgman's wharf, with Bilious Fever of suspicious character on the 31st July, 1819.

No. 14. Wm. S——s, A labourer attacked while at work on board Brig Nelson, lying at Waters' wharf, with a Malignant Fever, 2d August, his habits unknown.

No. 15. Mr. G. A fisherman whose occupation was chiefly about the wharves, (when in the City,) was attacked 2d August with Malignant Fever which terminated his existence in four days, he was a man of intemperate habits.

No. 16. Mr. K. attending the Market on the Point, violent Bilious disease, suspicious in character, 4th August.

No. 17. J. C——m, A Pedler in Fruit, whose occupation called him to the wharves collecting fruit from the shipping. His Fever which commenced 5th August was of Malignant Character, an intemperate character.

No. 18. F. W——r, Attacked with Fever of suspicious character on the 6th August: he was occupied chiefly in his father's shop, corner of Wolf and George streets, one square from the water's edge.

No. 19. Bill, A black man, native of the West Indies, and occupied daily at labour on board ships—very intemperate as to mode of living, a most Malignant disease, commencing on the 6th August.

No. 20. J. B——n, A slave to W. P. Esq. occupied daily at the ship yard on Price's wharf, attacked with Malignant Fever 10th August—intemperate.

No. 21. Miss. G. Daughter of J. G. Wolf street, attacked 10th August with Bilious Fever of high grade, symptoms of Malignant character—dwelling Wolf street and front of Wirgman's wharf.

No. 22. J. H. Hack Driver—intemperate habits—Malignant Fever, attacked 10th August.

No. 23. Mrs. D. H. Bond street, attacked 10th August with violent Bilious Fever of suspicious character. In the rear of this house is a wharf extending into the Cove.

No. 24 J. M. Ship Carpenter, occupied on Patterson's wharf, a Bilious Fever of high grade, attacked 10th August, a young man of temperate habits.

No. 25. Miss H——, Attacked with Malignant Fever 12th August, living in Alisanna street, eastward extremity near Flanagan's wharf.

No. 26. Mrs. S. H——'s Negro Boy Ned, attacked 12th Aug. with Malignant Fever, his occupation about the ship yards—dwelling as No. 25.

No. 27. W. F——n, A temperate and regular Old Man, residing on Patterson's wharf, attacked 14th August with Dysentery, characterised with symptoms of a most Malignant character.

No. 28. Ns. L——'s Boy, corner of Pitt and Wolf streets, and in the immediate vicinity of the unimproved part of Wolf street, attacked with Malignant Fever 14th August, which in four days carried him off.

No. 29. Mrs. S. H——'s Negro Girl Rhodey (see 25 and 26) attacked 14th August with Malignant Fever.

No. 30. A. T——e, Blacksmith, a regular temperate man, and worked daily at his shop on John Price's wharf, attacked 15th August with Malignant Fever.

No. 31. J. T——e, Son of the above person, (see No. 30.) same disease and under similar circumstances.

No. 32. J. C——r, Apprentice to A. T. (see No. 30.) attacked also with Malignant Fever, under the same circumstances with cases 30 and 31. Those three persons were occupied at work in a shop between Wolf street (the unimproved part) and John Price's wharf, as it were between two fires.

No. 33. Mrs. C——, A native of the West Indies, Malignant Fever, attacked 16th August, dwelling in Lancaster street, back yard of which dwelling a nuisance, and the cellar under the house in a dreadful state.

No. 34. J. D——, Apprentice to R. M. Blockmaker, on Tenant's wharf, attacked 17th August with Malignant Symptoms—soon recovered and went to Harford county where he relapsed and died.

It would be needless to enumerate more of the many cases which came under my care, these will suffice I think, to shew the course the disease took in its commencement, travelling regularly along the course of the water and infecting the streets in the vicinity thereof. My most violent cases were near the waters edge or contracted there.

SAMUEL B. MARTIN.

BALTIMORE, December 31st, 1819

SIR,

YOUR favour of the 1st instant came to hand on the 12th, and indisposition has prevented me, since, from paying it an earlier attention.

In reply to your First Query, I beg leave to state, that the first case of suspicious or highly Malignant Fever which occurred in my practice the past summer was that of Mr. John La Borde, whom I attended, at the beginning of August last, at his lodgings at Mrs. Vickery's, 44 Granby street. There had not been, as yet, any mention of the prevalence of that disease in our City; However the first symptoms clearly showed the malignant character of his fever, of which I apprised his wife. From the several questions I put to the patient concerning the source of his disease, I could get no other information but that he described it to his having walked a long time without his hat on, in the night air, which did not satisfy me. On the fourth day, after his recovery, one of his friends who came to see him, informed him of the death of Mr.  at Mr. P. Lanney's, Harrison street, where he lodged. This gentleman had been but a few days in town and was Supercargo of the Haytian Schooner *Constancia*, from then lying at Smith's dock. On hearing this news, Mr Laborde recollected to have been on board this Schooner, and to have breakfasted with the Captain and Supercargo the day before the latter fell sick. I was satisfied that Mr. Laborde got the infection on board the Haytian vessel, and such is still my opinion.

In order to be enabled to answer to the Second Query, I have visited our principal wharves which are justly considered as the hot beds of morbid infections. Those between M'Clure's and Smith's wharf are in good condition, except some few places which preserve dampness and which require to be more particularly examined. All that part of the river shore extending from M'Eldery's street to Fleet street, Fell's Point, appears to be in a proper state to emit, in particular seasons, pestilential exhalations and generate many diseases. It invites, therefore, the particular care of the City Authorities. Patterson's and the other wharves, as far as Pitt street, are in the best condition; but the small and narrow wharf or gutter which terminates Pitt street, has become the receptacle of all sorts of putrid matters brought down by the rains and the waters, which, almost fill it up. In hot days, at low water, the sun acting strongly on these substances, miasmata of the most noxious kind must naturally be produced there, which are carried and spread afar when the wind blows directly into that street.

The part of the town between Pitt street and Wolf street is low, preserves a constant dampness and is rendered more unhealthy by its exposure to the rising sun and by the timber yards established there, which must emit injurious exhalations. All the wharves extending from the latter places as far as Fountain street, are in a good condition; but the surrounding grounds are low and preserve a constant humidity lodged under the fragments of animal and vegetable matters, which being deposited there from the adjoining streets, remain in a state of stagnation on the surface of the ground, and may, in particular seasons, produce morbid infections.

It is well known that banks of rivers, docks, wharves, marshes, low grounds, and generally all places preserving dampness, the surfaces of which are covered with animal and vegetable substances, acted upon by a hot sun, generate constantly miasmata, which are more or less injurious to health, according to particular seasons, and produce number of diseases; but I contend that in our climate they do not produce the seeds of the Yellow Fever. The generating source of the primitive seed of this disease is only to be found in hot climates, and the torrid zones, where caloric keeps constantly very high. The same may be said of the plague of which the Yellow Fever is one of the nearest branches and might be denominated with propriety the West Indies plague. But this infectuous seed or miasmata, can be and is transported to other climates, where meeting a favourable locality and season, it generates the same disease. If this miasmata becomes united to another miasmata, or gets into an atmosphere, the constitution of which is bilious or of any other nature, then it experiences a degeneration or regeneration and induces diseases more or less malignant or contagious; and when places subject to a humid temperature, in the vicinity of rivers on low and constantly damp grounds, exposed to the rising sun, and inhabited thickly are visited, once, by an epidemic of this kind, followed by great mortality, it may be expected that in such places the miasmata will accumulate and concentrate, become at last naturalized, and will be exerted into action whenever the seasons be favourable. The seeds of the disease will not be extinguished but by degrees according to the diminution of the mortality.

Respecting the Third Query, I shall observe that I have always considered the Yellow Fever as more or less contagious according to number of circumstances. This opinion is the result of many observations made in the anterior epidemics and is farther corroborated by the case before related in reply to the first query. I have no doubt but you will entertain the same opinion after you will become acquainted with the first cases occurred in the practice of other Physicians in the last epidemic. For the prevention and

destruction of this calamity, I shall propose two means. The first which is a preventive, and which I published twenty years ago at two different times, and again in the Patriot of the 17th of September, 1819, consists in enforcing a strict Quarantine on all suspicious vessels; enjoining on every Physician the obligation of giving public notice of the first suspicious case of Malignant Fever, particularly in critical seasons; in removing the sick out of town and also the most immediate neighbours. Such measures combined with the adequate measures to promote cleanliness in the town, to fill up the places where dampness is constantly preserved, and to remove all sources of impure air, will, in my humble opinion, be the only means of preventing this disease, or at least of stopping its propagation. The second means I beg leave to propose, will operate the total destruction of this disease, and by restoring confidence and tranquility of mind, will put an end to alarms, apprehensions, vexatious quarantines and suspension of trade. It consists in a medicine which I have discovered and has proved to be a sure and certain cure for the Malignant Fevers. It has stood the test of many experiments, in one of which, I can affirm that out of 108 patients, 101 were restored to health, some in three days, others in four, five or six days the farthest. I can assert, without fear of contradiction, that this medicine is a certain specific; and on explaining this discovery my intention is to apply to the Mayors and Councils of the principal Cities of the United States for a subscription, the amount of which shall not be paid but after the most satisfactory proofs of the efficacy of this remedy. If it should not answer the description I shall give of its properties, nothing, of course, will be required. A part of the subscription money shall remain in the hands of the Mayors to be distributed to the poor and orphans.

I have the honour to be, Sir,

Your most obedient and humble servant.

J. J. GIRAUD.

To EDWARD JOHNSON, Esq.

Mayor of the City of Baltimore.

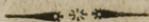
To EDWARD JOHNSON, Esq.  
 Mayor of the City of Baltimore.

THY Circular of the 10th instant, requesting my approbation to publish (with others) my communication relative to our late Epidemic, stating, "It can be used to answer a very valuable purpose," &c. under this presumption, it does me pleasure to say, it is entirely at thy disposal.

Very Respectfully, &c.

J. BREVITT.

Second Month 15, 1820.



To EDWARD JOHNSON, Esq.  
 Mayor of the City of Baltimore.

YESTERDAY I received thy printed Circular, (which is now before me) requesting such information of my knowledge and observations of the late Bilious Malignant Epidemic, in this City, as to what regards its source or cause, nature and best mode of prevention.

It always was my highest gratification to contribute every thing within my limited means, for the general and individual good of my brethren, (for such I esteem all conditions of men) and am truly sorry I am not in possession of more facts and information in the present instance: but the widows' mites were well received by our blessed Lord and Saviour Jesus Christ. I trust my small contribution will not be rejected an admission to the treasury of knowledge in the keeping of the Chief Magistrate of the City of Baltimore and the City Council.

I presume I need not enter minutely into a physiological or pathological investigation of the nature of the bilious fluid which is allowed to be neither alkaline nor acid, but of a saponaceous quality, extremely bitter, pungent, and of a strong tendency to the putrefactive process: the increased excitement produced by the high temperament of our latter summer months, increase (I presume) its secretion by the liver, and its tendency to the putrefactive fermentation, the more aqueous or thin parts are dissipated in increased persperable evacuations, and the more gross particles accumulate and take on an additional consistence and thereby plug up the emunetories of the liver, by which its regular and healthy course and discharge are obstructed.

That large viscus the liver, the gall bladder and its ducts, become gorged, enlarged and form a tumor externally discoverable

to the touch on the right side below and under the cartilages of the false or short ribs, which compressing the lungs, become oppressive to respiration, more sensibly discoverable when lying on the opposite or left side: The bowels become costive and the feces or excrementitious evacuations hardened, and of a lighter color, evidently shewing a want of the presence of the bile, whose properties when healthy are purgative, and color of a bright rhubarb yellow, which from its absorption and distribution in the blood, give a sallowness to the countenance, oppression to the brain, a nauseated stomach, and a depraved or loss of appetite, so far for symptoms or diagnosis, to use the medical language, which in the present communication I have studiously avoided as I wish to be understood.

The few cases that fell under my immediate care or observation (suspicious and highly malignant) are decidedly to my satisfaction without the least evidence of a contagious nature or tendency. On this head I am abundantly convinced our citizens and all others may rest perfectly secure. The cases of John Mott, Larkin Read, James Minsbridge and Robert Penlarick who were all of the most malignant, and decided character: the two last where under my own immediate care, the former under some of my professional brethren of the most respectable standing. They all died with every virulence of the highest grade of disease, not a single instance of contagion from any one of them, these alone are to me sufficiently satisfactory proof of the non-contagious nature of the highly Bilious or Yellow Fever, which prevailed in a part of our City, during our last summer months and first of the fall. Those who require more I have no doubt may be abundantly gratified by the united voice of our medical faculty which I esteem as a body inferior to no City in the union.

The sources of all these cases are decidedly traced to the immediate vicinity of the water, as the lower part of the Point and the wharves confined to a distinctly marked atmosphere within certain circumscribed limits, beyond which the disease is not communicable. The cause I esteem to be putrid exhalations engendered in the mephitic effluvia of rotten vegetable and animal matter concentrated in confined situations, thereby increasing their hurtful qualities, as holds of ships, damp cold cellars, nuisances deposited in low situations, as necessary vaults, putrid fish, fowls entrails and rotten vegetable matter deposited in the streets, and not immediately removed, stagnant water in ponds or gutters, &c.

Of the Prevention which may be considered in a few words, (viz.) Exercise, Temperance and Cleanliness: these under the blessing and will of God, who made us and all about us, which he governs; we may presume will effectually prevent these severe visitations, (except permitted for our chastisement and purgation)

when it becomes our duty to bow in humble submission to his will concerning us, and supplicate him for power to amend our ways and to live more conformable to the divine will, of which I fear we have been egregiously deficient.

As deposits of nuisances from our kitchens, &c. must necessarily take place, for to keep them in our houses or on our premises would be to propagate and establish inevitable and universal pestilence and death, more especially in our Cities: Our attention is then directed to the most immediate and effectual removal of them; in spite of all our City Ordinances, and all the wisdom combined of our police to the contrary notwithstanding, I have no hesitation in recommending as the best possible mode a free and entire range to the Hogs at all times and at all seasons, as scavengers the Turkey Bussard is far their inferior, the latter taking away putrid animal matter only, which further require to be deposited in the fields secluded from the busy haunts of men, to secure their accommodation, for the Cities they sedulously avoid, whilst the Hogs preambulate the most secluded holes and corners, gorge with voraciousness and rapidity every kind of garbage vegetable and animal, and remove them with the celerity of legerdemain. A hog running at large is a friend to every one he visits, whilst a hog confined is the most intolerable nuisance we can possibly conceive, is too well known to need definition.—And farther, as extreme poverty and indigence is well known to engender disease and sorrow, the provision against which exercises the liberality of our police and our citizens to avert. This would be an admirable and most stable provision, in as much as the poor man in the spring for his dollar, gets him a pair of rabbit size pigs, and occasionally as he can spare bestows on them his five-penny piece, which with picking up what would be a nuisance and cause of disease, they grow to the delight and provision of the poor man and his hungry offspring: and the necessity of the subscriptions for winter provisions for the necessitous poor, which is always insufficient, are here measurably obviated without cost, and serves for the removal of the causes of disease and death: also when the poor man has raised his little pigs to be Hogs, affording an helpless family three hundred weight of bacon, at this inclement season of the year—Is it not an abomination in the divine sight, that this possession (raised measurably from the scanty sparings of a scanty board) should be wrested from him by a legalized T\*\*\*t under the sanction of the Police? Such things cannot but be an offence to that great Being who is of too pure eyes to behold iniquity with approbation: This may be one great cause of the sufferings we have of late experienced.

Respectfully, &c.

JOSEPH BREVITT.

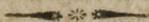
Baltimore, 12th month 9, 1819.

SIR,

HAVING in view, in my answer to the questions which you addressed to me, no other object, but that of public utility, I feel justly penetrated by the benevolent application of it, which your humanity prompts you to make, use it in any way you may think proper, and believe me sir, to be respectfully and with esteem,

Your very obedient servant,

L. M. DUNAN.

*Baltimore, February 17th, 1820.*

SIR,

AGREEABLY to your request I answer the questions proposed to me.

To the 1st Question I answer, That, the first patients whom I had occasion to treat and who were really afflicted with the late Epidemical Malignant Fever, either resided or worked in the space comprised between Wilke and George Streets, F. P. Their mode of living differed only by their customs, an equal proportion being French, and the other native Americans. They were all so far as came to my knowledge, persons of sober habits, and were of both sexes, and the majority of them adults.

In my opinion, their disease was produced by the absorption and inspiration of a Gas, peculiarly mephitical and local, which developed itself originally within a circumscribed space, and was contagious to any person exposed to its influence, whatever might be their mode of living, or the nature of their work, and it discovered itself more or less rapidly or energetically according to the constitution of the patient, or from the quantity of the absorption or inspiration of the deleterious principle.

2d Quest. Here, I shall permit myself to enter into some remarks on the situation of our City. From observations made in ages very anterior to the present, and even before the Christian æra, men of knowledge, and especially Hippocrates, the father of medicine, have agreed in the opinion, that, all Cities situated like Baltimore, on a sloping ground exposed partly to the rising sun

and partly to the south ought to be healthy, its waters running in the same direction are salubrious and light, the inhabitants are gay and communicative, of an enterprising genius, and exposed only to the diseases inherent in the human species inhabiting the most healthful and mild climates.

Agreeably to the following exposition, we should be exempt from all local Epidemics, if the happy situation of our City was not bounded on one side by the generative cause of all our afflictions; namely, the Basin.

All the filth and offals of the City by the natural descent of her streets are carried and deposited into the Basin, the waters of which are agitated and renewed, but by the ebbing of the high tides, aided by a strong breeze from the south. We ought to consider as of no consequence, the small stream of water called Jones' Falls, in the canicular days; it being at that season reduced to nothing, as we have observed it to be this year, during several months of drought. The influence of an intense and dry heat must put into a state of fermentation the animal and vegetable matter which is carried into our Basin, its waters must be decomposed and changed in their nature, its miry deposit, produced by heterogeneous bodies, is susceptible of forming gases the most inimical to health, especially if the diminution of the waters leave it uncovered and exposed to the action of a burning atmosphere, from thence arises, the corruption of the vital air, locally where the emanations take place.

Low situations and the borders of the Basin will always be the first infected, particularly if the waters retreat precipitately from where there is the least depth. Experience comes to the support of this observation. At the extremity of Wilke and as far as George street inclusively, there are several places and small docks where there is very little depth of water, in which, are rafts of pine timber for ships masts, laying in the summer season on a bed of mud, and when the causes before enumerated become coincident, they must produce a morbid and infectious principle.

During a residence of twenty years in Baltimore, I have been constantly occupied in discharging the duties of my profession towards my fellow-citizens, and for the preservation of whose health I feel peculiarly anxious, I have observed with sentiments of great satisfaction, the increase of its salubrity, notwithstanding the rapid augmentation of a mixed and exotic population. This Sir is owing to the paternal solicitude of our City Council, and the rational measures which they have always adopted and put in execution.

Persevere in levelling the sloping grounds of the City, restrain the waters of our Basin by wharves built with stone in a straight line, and where there is a good depth of water, form the least number of docks, possible, as the waters in them are renewed with difficulty. This object of individual consideration, ought to give way to that of the public; If possible, do not expose any kind of mud to the action of dry and burning sun. In adopting these means you will have humanely done, all that can contribute to the preservation of the healthfulness of our citizens. The topographical situation of our City requires, that her streets (particularly those sloping to the south) should be kept in the highest degree of cleanliness, to prevent any filth being carried into the Basin. The Wharf Masters ought to be very strict in their superintendance, in order, that no kind of damaged and corrupted provision, animal or vegetable, be thrown into the harbour.

Prohibit the raising of filthy animals in the bosom of the City. If added to these several means of public salubrity, we could have a stream of water to fall into our Basin, strong enough to keep its waters in constant motion, and renewing them daily, then, our City would become the Montpelier of the United States. Gwinn's Falls appear to me to be sufficiently elevated, to accomplish the object above mentioned, whenever the state of our finances will permit it, may that period not be far distant, is my most sincere wish.

In answer to the third question, I say, that the disease produced by a developement of noxious Gas which taints the atmospheric air, is Epidemical for all persons living within the sphere or rather ray of infection, but it is not contagious otherwise.

Here follow the preventive means I would propose—So soon as unequivocal symptoms of an Epidemic disease are discovered in a place, remove its local population, and interdict strictly all communication with the infected spot. Cause heavy detonations with cannon and fulminating powder to be made at the infected point. The beating of drums, and every thing tending to agitate the air by continued and multiplied vibrations, only, are capable of producing a new combination of the local atmosphere and of preventing the dissemination or spreading of mephitic miasmas. These different means should be employed immediately, and with sufficient strength and perseverance. Circular fires alimented by resinous substances, may prove useful, by concentrating the column of vapour and compelling it to rise.

Now Sir, I consider it to be my very indispensible duty, to detach you and our City Council, from all censure, as respects the evil

by which we were afflicted this year, your watchfulness, your constant desire in attending to every thing by which the public health might be promoted, have rendered the late Epidemic very partial, when compared to that of Eighteen Hundred. Out of fifty which I had occasion to treat I had but eleven cases of Fever, unequivocally Epidemic. Receive Sir the assurance of the respectful consideration, with which I have the honour to be,

Your obedient humble Servant,

L. M. DUNAN, D. M.

*Baltimore, December 28th, 1819.*

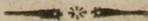
DEAR SIR,

I have no objections to make to your publishing my communication to you on the late Fever. But as this letter was written in a great hurry, and was not intended for publication, it surely cannot be very acceptable to the public.

Yours Respectfully,

JOHN B. CALDWELL.

*Baltimore, February 15th, 1820.*



BALTIMORE, December 11th, 1819.

DEAR SIR,

IN compliance with the request, contained in your Circular of the 1st of December, I shall proceed to answer the queries in the order in which they succeed each other.

1. The cases of Fever which came under my immediate notice, had their origin, located at the extreme end of the Point, with the exception of one, which owing to its rapid progress and other circumstances, I was unable to trace to its source. The patients were of the lower class, were irregular in their habits, frequented taverns, and houses where the most abandoned resort. I would ascribe their sickness, to the effluvia arising from the masses of putrefying vegetable matter, accumulated at different places on the Point.

2. I consider the mud which was used in filling up the docks, in the improvement of Pratt street, to have been a nuisance of a serious character. The uncleanly state of many of the alleys and yards constitute another hot bed for the production of disease. The cheapest and most effectual means of removing these sources, I deem to be, the removal of all collections of vegetable materials, to keep the streets, alleys, &c. clean, and causing the lower classes of persons to be more attentive to the cleanliness of their houses and persons.

3. I do not believe the late Epidemic to have been contagious under any circumstances.

I regret that time will not permit me to enlarge upon the above topics, so interesting to humanity and the welfare of our City, but I congratulate you upon the opportunity you will have of receiving information from abler hands.

Yours with respect,

JOHN B. CALDWELL.

BALTIMORE, March 26th, 1820.

To EDWARD JOHNSON, Esq.

DEAR SIR,

HAVING received your favor of the 10th February last, requesting my assent to your publishing a communication which I made to you in December 1819, on Yellow Fever for the use of the City Council, and mentioning that "it can be used to answer a very valuable purpose by being published with others on the same subject, and the proceeds of the sale applied to the Dispensary," I have to regret exceedingly that I cannot agree to have said letter published at length, inasmuch as it was not written with that view, and is too imperfect to intrude upon the public. I have however taken out of this communication some extracts, which will make several pages, and if these can be of any use in your benevolent design, you are at liberty to publish them without using my name. I will correct the proof sheets in case you think proper to publish the enclosed on those conditions.

Yours Respectfully, &amp;c.

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### EXTRACTS.

"IF however it can be clearly shown that the immense mine of wood, which now lies buried near where this disease originated, as it were never to rise again, has had the most extensive agency in generating the remote cause of our late Epidemic, and that all other nuisances which have had any share in producing it are of the same nature, the generality of your interrogatories will be in some measure answered.

That which is commonly called the remote cause of Yellow Fever has hitherto been a terrible enemy of mankind, and has perhaps justly been said to "move in darkness," for certainly there is but little correct knowledge of its nature in the world, even at this enlightened age. It cannot be detected distinctly by any of

our senses. Its consequences furnish the only infallible criterion by which we know that it exists or has been present. Hence it has been chased in imagination, (I had almost said) from pole to pole, and although its traces are discoverable in most places, no country has had the magnanimity to own it as a native of their climate. Consequently the public authorities of almost every country have engaged in framing laws to shut it out as an unwelcome stranger. All this has been done in vain. The object has always been frustrated. Humanity is still left groaning under the yoke of a torturing and cruel adversary. The statesman and the peasant, the male and the female, the white and the black, the young and the old, all wither and perish before his poisonous darts. He triumphs for a season in our summers sun—He vanishes in the fall only to return again.

It is therefore but reasonable, viewing the subject in this general light, that he who has the most trifling regard for the human family, should enquire for the reason why every law which has been enacted in this case has failed to afford us security from this deadly enemy. But it would seem that popular odium must necessarily fall heavily on the head of him who would attempt to charge those wise lawgivers in their \* Legislative proceedings, with having started at a phantom, while they have left basking in security at the threshold of our own doors the proper parent of the true enemy. Nevertheless when the lives and property of our fellow-citizens require the aid of every ray of light that promises to shine in upon this road of darkness it should not be withheld on that account.

But should the ground travelled over aim at showing, that in every country, and in every city, and in every place, and on board every ship long at sea, where Yellow Fever is found to have originated the proper source of this cause exists there also, and that wherever the object is to save mankind from the jaws of one of the most tremendous of all diseases, these laws should be quite reversed, and so formed as to shut foreigners, natives, and all out from every such place while the disease prevails with virulence, and that certain nuisances should be ransacked to the bot-

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\* This malady invaded the Legislature of South Carolina, while coolly deliberating in their chamber, and destroyed almost one half of their members besides several other persons of distinction, viz. Chief Justice Bohun, Rev. Samuel Marshal, Edward Rawlings Provost Marshal, John Eli, the receiver general, &c. in 1699, or 1700. So general were the sufferings (one way or other,) "that anxiety and distress were visible on the countenances of every one." "Many of the survivors seriously thought of abandoning a country on which the judgments of Heaven seemed to fall so heavily." See Dr. Hewet.

tom and similar ones prohibited, why should either the law-giver or the property holder turn a deaf ear to the voice of reason, which is built on stubborn facts, intimately connected with the fate of hundreds, who yesterday lived and moved but to-day are seen no more.

As it regards the Yellow Fever of our country, it is believed the doctrine of contagion was first contradicted in this City. But notwithstanding the opinion that this doctrine is founded in gross error, has gained general ground among our medical men, the public feeling has not been altogether overcome. Therefore the calamities\* arising from the relics (if the expression be admissible) of this once popular idea, are such, as to call on you and every good citizen, in a language not to be resisted, to dis-coun-tenance it in every step that is taken, whether it be official or not.

You will however, not understand me here to wish, that the slightest censure should attach to the relatives or other humane persons whose business it has been to attend on the sick. On the other hand, let me bear honorable testimony to the contrary. But Sir, it surely requires an inordinate degree of refinement of feeling of family affection, and I will say of courage, for a female to hang over and administer comforts to even the nearest relative, when she is under the impression that a risque is running thereby, which would be, if real, in degree, and nature, much greater and more abhorrent than that of facing an enemy in equal combat.

Nor is it foreign to my purpose, that this WHIMSICAL NOTION should be turned aside—Should be buried never to rise, disgrace, and annoy us again. For notwithstanding, as before intimated, the doctrine is already scouted from the mind of nearly every man of common sense and understanding among us, who has seen the disease and has any knowledge of its nature, your earnest enquiry on that point shows that the full weight of injustice lately experienced by this City, when that was made the *plea*, is felt by you, and it consequently merits attention. Men may err with open eyes when their interest is at stake. This is only when the human heart is grossly depraved. Let us therefore have charity enough for our neighboring brethren to refer their conduct to want of in-

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\* The idle speculators who deal in contagion, will have a heavy load of this species of harvesting to carry with them to the Courts above, although they cannot gain the much sought for case wherein the Yellow Fever has been communicated out of infected districts to carry to the Legislative Chamber.

formation—The offspring of indolence; for the light is left recorded as a rich legacy by their late fellow citizen the celebrated Dr. Rush, as well as others.

With a view to satisfy you on this score as far as possible, it can be clearly stated, that not a solitary instance has arose (among all who were sent to the country and to parts of this City not invaded by the infectious air) wherein the late Yellow Fever or any one case of it could be shown to be referable to contagion, or in other words, wherein the disease appeared in any degree communicable from person to person.

If the nature of the disease was put out of the question altogether, as this criterion has invariably resulted in the same way wherever the disease has been known, it should have set the matter to rest long since. For it is utterly absurd to argue, that a disease is contagious within a certain space or limitation of air and at a particular season of the year which is not so in all places and at all seasons.

But Sir, there is quite as little evidence to be adduced that Yellow Fever is contagious even where it has originated and prevailed in its worst forms and in all its varieties. On the other hand, it has appeared plain, that contagion has nothing to do with the production of it even there. The probability is there was more safety in the houses, no matter how many sick and dead there were to mingle with, than in the streets during the late fever.

Bilious Fevers of the ordinary grade are perhaps universally referred to miasmata for their remote cause. If then Yellow Fever be Bilious Fever (which many of the friends of contagion admit,) would it not be a grand philosophical contradiction to refer it to a different or second cause, no matter how high the grade may be esteemed! But the practice of some men, who refer it to near a score of "indispensible requisites," such as "warm weather," a "particular season," a set of predisposing agents, a "peculiar constitution of the atmosphere," and so forth, and so forth, and at length turn round and tell us, that under these circumstances the disease is certainly contagious, is a species of philosophising altogether unwarrantable.

By the term contagion we ought to understand, that a patient before us has been sickened by certain seeds of disease thrown off from the body of a person who has previously had the same disease communicated by effluvia produced by the same disease in a third, and so on ad infinitum, as we find to have been the case with the Small Pox at all times and seasons back to the remotest antiquity. This disease prevails alike in all countries inhabited by

man. Yellow Fever does not. But these high medical authorities, who sit down in their closets and wrap up nonsense into an imposing shape, do not view contagion in this light. They can do nothing without marsh miasmata. And look ye at the consequences. Can there be any thing more irrational than to hold out that this patient has taken the Yellow Fever from one who has previously received it from a third who got it from marsh effluvia, one of the indispensable requisites, or that which makes the peculiar constitution of the atmosphere!

If the disease was thus contagious effluvia is the original offender, and there should be but one opinion about removing its source. But will men have you to hang the effluvia, or cause of all this mischief, between heaven and earth for a season and give it no origin—no progenitor—no abode thereafter—neither author nor finisher? or will you sit down and *fold your arms* saying that he is a “demon that moves in darkness,” and content yourself in doing nothing merely because he is sometimes merciful. Effluvia must have a birth, and if a birth it must have a progenitor with a resting place. And if effluvia be the cause of the disease once, it is again and again, and ever will be; for there is no other doctrine that will not run counter to the laws of nature. Every one knows the mildest forms of Small Pox will generate that which is capable of reproducing the worst forms. Every one knows that Intermitting Fever will not reproduce the cause of itself, nor no other form of Bilious Fever. Neither will the worst form generate the cause of its own or any other grade among the whole variety of Bilious Fevers.

The cause of this disease is planted in man or received as a poison, but this cause is something foreign to his nature which cannot be reproduced by him.

At the commencement of our calamity (as is usual) the disease was of the mild intermitting form, such as we always meet with in autumn. But before these persons had all recovered from this Bilious Fever, others in the same houses were taken with Yellow Fever. Such examples (as shall be noticed hereafter) of gradation from low to high character, as could not have failed to satisfy the most incredulous (had they witnessed them) that the cause of the one was the cause of the other, have fallen under my care among the diseases which appeared on the Point as well as at other places.

To assume it as a general ground that the remote cause of Bilious Fevers of every grade is the product of vegetable decomposi-

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\* This fact contravenes the theory of some of the New York faculty.

tion entirely, is not a *doctrine* generally received. Yet most men will agree, that if vegetable matter is not palpably present in the production of the cause of all these diseases it is at least commonly so. And it is believed there is no respectable opinion on this head which does not inculcate the necessity for its presence wherever these diseases are found to have originated. It would therefore be just to conclude, that an acknowledged offending agent can accomplish its accustomed effects, without the presence of a second agent expected to have the same operation. And unless we admit that two substances or prime causes quite different in kind, do, when decomposed by nature, or by the operation of her elements, produce that which will have the same effect, (which has never been ascertained as regards vegetable and animal matters) there is at least no more necessity for calling into the account the assistance of animal matter than there is for searching out a peculiar constitution of the air, predisposing causes, &c. when the intention is to refer the disease to contagion at last.

This disease has prevailed for near thirty years at a particular season in one place. The cause of it must emanate from some permanent source. By its effects we know that it has existed here for this period of years at the same season of the year. The operation of it has been at first most quick and powerful on strangers. Afterwards it has become strong enough to excite disease in the most robust natives, and in foreigners from the highest and healthiest hills in the world immediately on their arrival amidst it, without the aid of any of the above named imaginary assistants. Instead then of a long residence in this contaminated air and warm climate, rendering more susceptible of disease the inhabitants than strangers from cold latitudes, the opposite has been the true state of the case. Therefore the air cannot have been so constituted as to produce the disease, viz. *the whole atmosphere*. But we believe the cause was still in the air of this neighborhood. This apparent contradiction has always been such a stumbling block to the public, as to gain a preference in favour of contagion, and must be definitively explained. This may be effected in the following manner to your satisfaction.

You know there is more smoke in the air of this City than there is in the same space of country air. Yet the smoke is continually mingling with the air, and is carried off by it. The sources supply this air with as much smoke as passes off into the general air, and occasionally it is suffered to accumulate for a short time. But the space of the City's air bears so small a proportion to the air at large, that there is more smoke at all times here than there is in the same limits elsewhere, at a distance from town.

It is believed with the best reason that this case is applicable to the generation and diffusion of the cause of Fever. From the beginning to the end it is emitted from certain sources, and here grows stronger and stronger until it reaches its climax of power, but is always weakened and wasted the further it travels and the more it is mixed with the atmosphere.

If we apply the proper article for extinguishing fires, the emission of smoke is soon ended, yet the source is left in part, and is liable to be set on fire again and to emit smoke. But if the combustible materials are exhausted, and the smoke ceases without the application of any thing to extinguish the combustion, no smoke will reappear, whether fire is applied or not, until the combustible materials are replenished. This will be the case as regards the cause of Fever on removing the source.

Increase of temperature rouses into operation the processes by which latent causes are rendered capable of producing their deleterious effects, and frost extinguishes these processes for a time, but if the materials are not exhausted, the increased temperature of the succeeding summer sets them into operation again. The source may be extinguished before a season is half over. In either termination of the process by which the cause is emitted, of course the Fever would terminate almost simultaneously. The late Fever of Smith's dock and that of Philadelphia, furnish examples of this latter termination. The first is plain to all and occurs every season on the coming of cold weather.

By taking violent poisons in moderation for some time, and increasing the quantity, the human habit becomes insusceptible of the direct operation of such a quantity of the same article as would destroy life under other circumstances. Here is a new law established (as it were) to the operation of this poison. The quantity which can be taken is regulated somewhat by the age and fibre of the person, as well as the powers of some habits, to work off and resist the poison. The cause of Yellow Fever is in this respect entitled to the name of a poison, and those principles will explain all its effects. It may act directly according to "its own laws," or indirectly according to a second set of "its own laws".

Besides, as vegetables taken in substance have a very wide range of different operations, their miasmata or products will also have different effects, for it is not reasonable to suppose this process will furnish for its product exactly the same thing from all vegetables.

But if the cause of this disease were generating in the quarter above named in small quantities, for some time before its presence

was fully developed by the consequences (which is quite probable) the inhabitants had received it in a slow way for some time, and hence we had Intermitting Fever first among children, Yellow Fever next among strangers, and next to those cases Remitting Fever among the grown citizens. (females) and Yellow Fever among the boys and girls, and finally the malignant type took the place of all other forms of disease near to the source, while Intermitting Fever kept in the out skirts and should have been hailed by the citizens as the welcome messenger giving the intelligence of the great enemy's approach.

This just outline of the subject might suffice to show that some powerful source of mischief was in this neighborhood this season, but in order to come fairly at the right one, it is necessary to consider carefully the situation of the place, and the diseases therein for the above named period back, and to bring collateral evidence. Experience and observation has shown that more or less Bilious Fever, of a character and grade not common to other parts of this City, has appeared in this place nearly every summer or fall for this period. And whenever this disease has been so alarming as to excite public attention, its effects here have been deplorable in the extreme.

In 1800 it raged here. In the year 1808, it was totally confined to this place, and ravaged the whole of Pitt street. Last year it broke out here in its most malignant type but did but little mischief before the frost destroyed its cause. One or two cases occur here annually.

Now with what reason can a cause which has been thus permanent (considering the whole space of time from the improvement of the place) be referred to such passive agents as have been alledged, whether they have been on board ships or not? For it would be strange indeed if vessels should come to that spot of the harbour, at the same season, during such a series of years with the cause on board, and not to many other places both east and west of the Falls. And if the inquiry whether or not it be possible that a source of animal matter, as permanent and lasting as the disease has been, could have existed here during this time, every man of understanding would give it an unqualified negative.

It would therefore appear to be hazarding nothing to defy all mankind to find any thing so permanent and lasting, and so likely to have been the origin of all these misfortunes as the construction of the wharves. But the matter shall not rest on this ground alone. For as the same method of improving is still pursued and threatens the City with total ruin, it is of no trifling conse-

quence. It is not contended however, that other sources capable of fermentation and of the generation of miasma for a few days, weeks or even seasons, have not been here occasionally; these have all been of the same nature and of trifling consequence.

But Sir, probably you are now ready to ask me why similar wood mines in other places have not also generated the cause of Yellow Fever? With equal propriety it might be enquired what the reason is, that we have not Yellow Fever in the winter, in the spring, and all the year round! The cause begins as it were to be emitted in the spring, grows stronger and more plentiful through a considerable share of the summer, is strongest and in the greatest quantity at one place early, at a second less early, at a third late, at a fourth still later. At several places it does not get into action at all until the frost intervenes and checks the process which generates it. If then the quantity of this material were the same in these places this mysterious process is modified by a variety of circumstances, and may or may not be roused into activity as these contingencies influence the case.

It might therefore be sufficient to argue, that in all instances where such nuisances can be pointed out as not having generated the cause of disease, these modifying circumstances have so influenced the process, that the more powerful agents heat, drought, &c. had not had sufficient time to operate. But the premises on which the aforesaid objection to the doctrine of miasma is founded are radically wrong. This cannot be received as an offset meriting argument in explanation then; most of these places did produce in the end more or less disease, and no doubt all of them some share of the cause. For example, the disease which appeared on the south west corner of the Point, where the cause is referable to a similar quantity of vegetable matter, commenced nearly as early as that of the east corner. The limits of each disease from each of these sources were so circumscribed and their spreading so slow that notwithstanding they severally reigned as the independent and arbitrary kings of disease in their own region, and unrelenting and insatiate destroyed as they went, it was some time before the small intermediate space was occupied. So long indeed that there is as good reason to believe a third, a fourth and perhaps a fifth abetter stepped in and completed the line as that these two great rulers met and contended for an equal share of the spoil. Neither have the diseases of this latter quarter been behind in grade, those of the former, for several years back at a late period of the fall season.

The disease also had an independant origin in this City, first at Smith's dock, again near Pratt street bridge, Commerce street,

Federal Hill, County Wharf, F. P. Fountain street, Sugar House wharf near Harris' Creek, and out of the City in several places. All these instances of origin may fairly be said to be examples of one depository of vegetable matter becoming a laboratory of the cause in the same season and vicinity at different periods.

The time and manner in which the disease has appeared and spread, in most of the seaport towns in the United States, and other countries similarly situated, should be received as conclusive evidence of its local origin, and as it is well known, similar quantities of vegetable matter have been used in many of these places for like purposes, this serves also to strengthen the argument respecting the effects of vegetables here. But if vegetables are not used for filling up they are for building the foundations of houses and wharves in all those seaport towns. Vegetables are not absent from any town, for they are inseparable from towns and the waters edge under the present regulations.

The Yellow Fever has visited North America, in one degree or other, at the same season for more than a century, and has not been confined merely to seaport towns. We learn from Dr. Hewat, that the colony of South Carolina\* was visited with great distress and mortality as early as 1699 or 1700, by a disease which was afterwards understood to be the Yellow Fever.† In 1703 it returned. "In 1728 the summer was uncommonly hot," "the face of the earth parched," "the pools dried up," "when a distemper broke out commonly called YELLOW FEVER," and "swept off multitudes of the inhabitants." In 1732, as recorded by the grand father of Dr. Prioleau, "the *Yellow Fever* began to rage early in the summer, and continued until October." This was in Charleston, and probably he did not allude to any other part of the colony. "In 1739 the *Yellow Fever* raged nearly as violent as in the year 1732." "It was observed to fall most severely on Europeans." "In 1745 and 8, many young persons and Europeans died of it." "In 1758 and 55, it appeared but did not spread." At this early period it is stated, that "in all these visitations (in Charleston) it was remarked that it never spread" to nurses and other persons "in the country," or elsewhere, "though often carried there by infected persons." In other words, that it never was communicated from person to person, by the matter of con-

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\* It prevailed about the same time in Philadelphia.

† It was generally called the Plague by the inhabitants. But from tradition and other circumstances the disease, as it appeared in Charleston, was believed to be the Yellow Fever. See Ramsay's South Carolina, pages 82, 83.

tagion, out of certain limits of air, whatever the public opinion might have been with regard to the origin.

According to the much lamented late Dr. David Ramsey, this fatal distemper "appeared also in 1745, 1748, and all the years between these and 1792, but never so much as to excite public attention." "A few sporadic cases of it only," similar I suppose to the cases in Pitt street, F. P. in many years. "It raged that year and in 1754, 5, 6, 7, 9, 1800, 1801, 2, 4 and 7, in its worst form." It appeared slightly in 1803 and 5. In the years 1793, 98, 1808, the disease is not mentioned at all. In 1806 it is only mentioned as having "occurred in a few cases under particular circumstances." "In all its visitations it extended from July to November, but was most ripe in August and September." Nor has it ever appeared even in this hot climate in the winter after the frost had checked it. But in the hot season "the Courts of Justice\* were commonly shut up" in former years. "Men fled from the City as from a pestilence."

All this affliction in Charleston, has been the offspring of marsh miasma. Neither has the country in the vicinity of marshes and ponds been exempt from its baleful effects. Formerly the citizens of Charleston retired to the country for health, during the summer and fall months, but experience has shown that their lives were put in jeopardy there even when the City was healthy, and this turned the balance in favour of Charleston.† Other retreats such as sea islands, &c. have been resorted to since this change.

But the most important discovery for the planter and even the citizens of Charleston, has been made in that state. Good health it seems can be enjoyed within a very short distance of the most noxious exhalations, if the south west side thereof is thickly lined with tall pine trees between the source and the citizen‡. On these principles the villages of Waterborough, Springfield, Summer-ville, Pineville, &c. were commenced, and from the happy effects of

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\* See George Chalmer's Political Annals, Page 541.

† This is well known. The country people in the low marshy places went into the City to avoid high Bilious or Yellow Fever. See Dr. Ramsay, vol. 2. Page 97.

‡ The manner in which these trees become useful is not understood. Neither is it known in what manner the poison exhaled is disposed of. It has been supposed that the growing trees absorbed it. But I think it most probable that these trees shelter the citizens in the same way that the walls of a gar- rison shelter those within them against cannon balls.

the pines experienced at these places, they soon grew up to their present respectable size. From such places as these the planter makes short excursions to his estate and returns before he has had time to receive the seeds of Fever.

Such have been the improvements made in the health of Charleston, by destroying marshes, that notwithstanding the uncommon heat of the past summer and its southern latitude the Yellow Fever there it appears was "almost exclusively confined to strangers."

Mill dams originate this disease in many places. Their water is stagnant; yet if a stream is large enough to set machinery in motion the water is not so stagnant as might to you appear. But whether or not it be from the dead vegetable matter overflowed, in the first instance rendering the water destructive to the life of the standing trees, not excepting such as live and thrive in perpetual ponds of water that has fell from the clouds and ponds which have no outlets but by evaporation and filtration, it is a fact, that every living tree sickens, dies and soon falls into the water of these places. And now (as is probable) the axe which fell great oaks, pines and all into the water, begins the work of death on the banks among mankind with aggravated rigour. The evaporated water in level places spreads some distance, and sows the weapon of disease and death wherever it goes. In the night it condenses into heavy dews or fogs and the cause is probably thereby better prepared to produce its effects. This corresponds with our case of late.

The trade winds which serve to moderate the heat at Charleston are not felt in the upper counties in South Carolina. Hence the summer heat ranges from four to ten degrees higher at a distance of 120 miles above Charleston. The uncommon calm and intense heat is probably still greater higher up. Miasmatic disease run into the highest grade there. A much greater proportion of deaths has been witnessed in situations previously healthy, during the second and third summer and fall seasons, near insignificant ponds with wood in them, constructed by persons not aware of their dangerous effects, for the purposes of bathing and raising water to supply indigo vats, distilleries, cotton machines, &c. &c. &c. than have befallen the people of Fell's Point of late. The slaves are less liable to take this malady than their masters, but far from being entirely exempt.\* All must either retreat or encounter a terrible risque.

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\* "Limited Epidemics" says Ramsay, "have been so destructive at different times to negro property, as to add much to the uncertainty of planter's estates." Eighty negroes given by an affectionate father to an only son, were in a few weeks reduced to forty-two, in 1780. "during the siege of Charles-

These incontrovertable facts added to those detailed by many others show at least that the product of vegetable matter (in a gaseous state perhaps) and not the evaporation (fog) from pure water, is the cause of this disease. It matters not then by what name it is called—Our object is effected if bilious disease has been originated and propagated by it. But as the mortality commences at a corresponding season, and ceases when the frost comes, and as the sick and dead have had all the symptoms and appearances lately witnessed on Fell's Point among the sick and dead there, from what we call Bilious Malignant or Yellow Fever, it would seem very reasonable to consider these diseases the same. And if it is intended to take the united voice of medical men, whose opportunities of seeing and comparing diseases, have enabled them to make up an opinion, they have in many instances testified that these diseases are the same and are only modified by season, climate, &c.

Long hot and dry summers favor vegetable putrefaction and noxious exhalations wherever they are experienced and these materials are found in a moist state. And awful would be the condition of our City (with all its vegetables and other appendages,) if the climate were uniformly hot and the seasons dry.

Every local nuisance throughout the continent contributes some share in rendering the air impure. A foul condition of the air has been noticed in certain sections of nearly every country. But although at first sight, this has a show of being a peculiar \* constitution of "*the air*" at large, it must be an error to receive it as such. This grows out of the great number of depositories of miasmatic materials, which produce their several effects in their own neighborhood. If this poison were capable of rising high in the air and spreading far, (of which there is no evidence,) Heaven has happily decreed that winter as well as summer shall visit us, and this balances the cause.

The air of 1800, it seems from the report of the learned faculty of medicine of this City, to the Mayor then in office, "affected

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ton" "many of the plantations in the neighbourhood of military operations" were "depopulated." Entrenchments were proper places for stagnant waters which would soon become filled with vegetable matter.

\* To give this sweeping explanation for the origin of Yellow Fever is what Dr. Ramsay, in speaking of the Fever of Charleston says, "is virtually to acknowledge our ignorance." This loose manner of expressing ourselves when applied to Yellow Fever, is calculated to do more towards obscuring than enlightening the subject in the public estimation, and should be buried in the same tomb with its coadjutor *the doctrine of contagion*.

herds of horned cattle, dogs, cats and poultry" as well as mankind. These diseases occurred in certain local situations and not in every place where "the air" is inhaled to support life; and I apprehend they must have been distempers of place, which, although found in many parts of the country, were neither seen every where nor were they capable of being carried every where. The cause of them grew where the consequences were manifested.

One of the diseases which affects cows when exposed to the operation of powerful causes in hot climates it is fully believed is the very one before us although it goes by the popular name of distemper. This malady prevails in south Carolina and Georgia, from June or July until frost, and sometimes kills whole herds. From its being altogether local several plantations there have got the name of distempered grounds. But this term is not applicable to a whole farm for there are certain fields on some farms where the disease is not known to have existed while others have a different character. In these fields the herds are carefully shut up during the sickly season at home. But if there is no convenient healthy field to be found on the farm they are occasionally exiled to other pastures. In this way many of these fine animals are saved from torture and death. If they have been raised on these plantations some of them will chance to escape even there. On the other hand, if "foreign" cattle, or such as have been raised without distempered grounds, are brought into them at this time, they are almost sure to die. Consequently this point is carefully enquired into, and has its proper effect when cows are to be bought, and sold, and transported from place to place.

The attack is ushered in by a palpable cold stage. This lasts several hours in some instances. During this stage of the disease the animal lies prostrate. A high fever now comes on, and drops of blood or bloody oil are seen to ooze from the skin. The eye is heavy and red. The urine is bloody—perhaps it is sometimes pure blood, but in the advanced stage it is occasionally black. Hæmorrhagies sometimes come on from the bowels. The animal breaths with great labor, groans excessively and bespeaks a degree of agony not easily conceived. Becoming restive it springs up and runs headlong into any water that falls in the way. After drinking largely it lies down never to rise again. If it does not get to water the dying scene is more tedious as well as more agonizing.

This distemper is esteemed irremediable. Death generally takes place on the third or fourth day, nevertheless one or two out of a large number may chance to recover, even without means, where the disease seizes on a large stock.

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Dissections have been often made and witnessed, but all that I remembered of the result, is, that an uncommon secretion of bile was seen in the gall cist—that the tallow (which the negroes take out in great quantities for making soap and candles) is invariably yellower than usual, and sometimes quite as much so as bees wax, and that the contents of the alimentary canal are quite dry; and the coats thereof inflamed.

The color of the tallow is the best criterion by which to judge of the nature of this tremendous distemper. But all these facts would seem to show that it is not only a local disease, but that it is the very disease which affects man about the same time and place. They do show at least that this malady depends on miasma. This is of the vegetable kind, and is snuffed up by these animals while they prowl about in search of food in swamps, mill dams, &c. &c. And every thing which has so important a bearing on this subject interests us all.

For the facts on which this statement respecting this distemper and the fevers of the South are founded, I am indebted to a friend; in some measure, but I have witnessed several of them myself.

The report of the Faculty thus alluded to, with the exception of a paragraph which admits the disease to be contagious in a domestic way, is still a good guide, and I beg leave to refer you to it. But I think as it is acknowledged on all hands that the name of Yellow Fever is not proper, and that its name furnishes a great stumbling block to the public as well as the young practitioner, and as the Faculty have dwelt upon the diseases of animals so much in this report, they had better have changed the name of this Fever. The Cow Pock is contagious in a domestic way, and it would have been quite as philosophical to have referred this *Fever* for its origin to the cow, or to some other animal, and to have given it a corresponding name as to have admitted this domestic kind of propagation by contagion.

The emission of gas has been witnessed around the wharves where the Fever began last summer on the Point. The bubbles rose with a regularity of succession, and in a manner entirely different from the escape of sulphureted hydrogen gas, so often noticed to rise from the muddy bottom. Their escape was quite as equal as ever gas has been seen to rise into a glass receiver in a chemical laboratory. The escape was thus visible only when the front or abutment of the wharf was below the waters surface and closely built. There is therefore no knowledge of what may have escaped through the vacuum between earth and water. Whether or not this gas had any smell could not be positively ascertained. In attending to its escape however,

from time to time, and making efforts, such as need not be detailed here, with a view to discover the qualities of it, the ammoniacal smell, or rather a smell resembling muriatic acid gas—a sharp pungent stinging taste or sensation seated about the fauces, and an intoxicating effect on the head has often been experienced.

The usual marsh miasmatic smell could not be detected here at this time. After frost it became plain for a few days to every one who attended to it. I will not try to account for this fact.

This gas was strongest and less mixed with other air here it is believed than at a distance from this source. In its flight it would seem to have lighted upon the heads of the unthinking as they moved through the streets and other places within its reach and to have filled damp houses, closets, cellars, ships holds, &c. &c.

It has often been said (and correctly too) that in the progress of Yellow Fever the first and worst cases are generally met with in damp places, particularly in old sunk wooden houses, with unsound foundations, &c. &c. Here no doubt something is added to the powers of the cause if it is not generated in sufficient quantity to do the business single handed.

Dry, close, brick, stone and other houses without cellars, made still dryer by being shut up with fires in their chimneys, consequently are not so likely to be invaded either from above or below by this dread king, who captures and slays under ordinary circumstances whole armies of children and other persons.

In this way, may be accounted for, the good health of some families who of late, regardless of advice and importunities, chose to make "fire prisons" of their own houses, rather than submit to exile. The cause was so strong as to sicken all around them yet by firing their chimneys and keeping within doors they escaped.

Fell's Point at large is not unhealthy generally speaking. The two corners project out into the water of this place and suffer most from Bilious Fevers. But these make a very small proportion of the place. Probably not the hundredth part thereof.

It was six weeks after the late calamity commenced at these places before it had spread much more than one hundred yards from the place of origin. Nor did the disease ever originate more than two or three hundred yards from some portion of the water, encircling a considerable portion of the place. Towards the close it became stationary for some time. Powerful winds might have driven it further, but "Heaven seemed to rule the storm," for we had no such winds in the necessary direction.

The frost has conquered our enemy for a season, but if it is as warm next summer as the past has been, we may expect his fire to be lighted up again. For the prevention of similar occurrences, it is not my place to point out "particular nuisances," and "recommend" their removal, further than leads to the true and grand author of this disease. That duty and many other important duties now totally neglected, should be the business of a responsible executive medical counsel, who would not wait for the next door "neighbour woman" to say this "Pig Sty," or that hot bed of vegetable filth is offensive, with a view to shift off his shoulders the mighty censure attached to having them promptly removed. The laws of our City do not make such officers responsible for the lives lost by this unwarrantable tenacity to popularity, but probably the laws of a higher tribunal will. The quality of nuisance is enough for me to name at present.

Wood, therefore, and all other vegetables in a moist and perishing state, during dry hot weather, long continued, in wharves, in ships, in ship yards, to a considerable depth in the earth, in all lots, (especially where the water stands long above ground,) in the foundations, cellars, &c. of all houses, in the streets, gutters, sewers, wells, privies, stables, slaughter houses, warehouses, &c. &c. are liable to generate in one degree or other the cause of every form of Bilious Fever from the mildest up to the worst grade of Yellow Fever. And certainly the rational course would be that of scrutinizing into every thing of this nature, and removing all that it is practicable to remove. If it is not considered advisable to undertake the removal of the great progenitor of the cause, (the wood used for filling in) you "can try" to bid defiance to the monster, by shutting up every window at which he dares to show his frightful face, and prohibit by law and penalty, the future use of vegetable matter for filling up if not for building wharves.

If the above ideas are correct, it is obvious the introduction of more fresh water into the Basin would be an indirect method of improving the health of this City of no small magnitude.

Health Sir, is all important to a great and growing City like this. Wholesome laws and improvements should relieve us of Yellow Fever. The Board of Health, with you at their head, have already made the honorable and distinguished declaration that this disease is within the powers of the Corporation, and no doubt you will accomplish that which is so desirable and which is known to be in your power.

The salvation of this City, as it respects another point to be involved in accomplishing such improvements as will secure us against this disease, is also in the power of the Corporation,

In filling up the *Cove*, and the marshy part of *Harris' Creek*, the wash which now carries down from the hills above the *Point*, &c. such enormous quantities of pure sand and clay into the harbor as has already ruined some of the best wharves, and cannot fail, if long continued in its present course, either to involve the *City* in heavy expences for removing the sand or to give to it but an ephemeral existence, by blocking up the harbor so as to make the wharves inaccessible to the shipping, would be found to further the health preserving objects considerably, without much expense if it were turned into these places.

The natural course of this wash is into the *Cove* but some of it can be turned into *Harris' Creek* also, and probably with less cost and trouble than those of removing as much sand as is lodged in one or two streets during a year when on its way into the *Basin*.

This wash moreover fills many cellars with water, in the course it now takes, and is not only a heavy expense, but a serious nuisance in all points of view, whereas it might be turned to the best account for filling up.

Since all have suffered in one way or other by our late visitation, the good sense and public spirit of your fellow citizens cannot fail to prompt them to move, hand in hand, with you in the accomplishment of every practicable improvement.

It is not advancing too far therefore to congratulate you Sir, on the speedy approach of a new æra of things—when the stupendous structure, (or rather nuisance) the doctrine of contagion, as it regards *Yellow Fever* in this *City* shall be demolished in all respects—when the true cause will be received and acknowledged as our own ill begotten child—when we shall attack him as the most ferocious and cruel of enemies—when this author of our past evils and of probably future calamities, such as are consequent on the most destructive of all diseases shall cease to be fearful—when our character for good health shall be re-established, and property shall regain its wanted value—when quarantine laws, founded in error, shall neither oppress the honest merchant nor annoy the just foreign trader—when gloom and dismay shall deliver up their thrones to that cheerfulness and activity consequent on security from pestilence and a just spirit of emulation—and when prosperity and good health shall move and be enjoyed in all our circles both east and west of the *Falls*.

I should do violence to my feelings not to recommend to your most earnest attention the poor east of *Hartford Run*. You know they are numerous.

Commerce is the main spring of this City. Fell's Point is as it were the key thereof—it is therefore important to all. But this same business which diffuses life, vigor and activity to the whole City, brings down upon this part of the City most of these poor. They have all been, more or less, directly or indirectly engaged in commerce, and have felt its depressed state comparatively speaking, a thousand fold more than the merchant. This is independent of their late suffering, and speaks a strong language in their behalf.

Some thing ought to be done for them by way of providing relief for such as are in real distress. But their future health and happiness would be greatly promoted by “exterminating all nuisances of the character of tipling shops,” by strengthening or improving the watch, and by providing employment for the idle. Street begging should be prohibited. Dissipated, lewd and worthless characters, who will not work, should be dealt with according to the existing laws. Great improvements in the moral character of this part of the City are already visible to all, and if this good disposition should be fostered, the general health will be very much promoted, and we will reap the superior advantages of morality.

Yours Respectfully.

—————, *M. D.*”

To EDWARD JOHNSON, Esq.

SIR,

I have received your letter of the 1st instant. The enquiries contained in it on the subject of "the late Epidemic" of this City merit the most earnest attention.

With a calamity so signal as this Fever has been, still fresh in our recollection, *all*, should, exercise the utmost research with a view to discover its origin and cause. Unless we can be satisfied in these respects there can be no well directed measures adopted for our future security, and we shall always be liable to returns of similar scenes of torture, death and mourning.

Viewed in any light this subject is important—It is full of interest. Life, health and prosperity are all involved in it.

Nor is an inquiry into this subject less full of difficulties than it is full of interest. The learned are at variance in their opinions on it. There are no fixed rules—no generally acknowledged doctrines to regulate us. On reasoning from the same premises, diversified conclusions are drawn. Wild hypothesis and false theory, as well as absurd nonsense sometimes captivate the fancy and gain the ascendancy over *plain facts*, and deductions urged with the most forcible and eloquent reasoning.

"This" Sir, "is a melancholy and mortifying exposition."

That diversity of doctrine is found to pervade every science is admitted, but that this circumstance offers any thing in extenuation of this case is denied—The “*truth has come to light as respects the great point,*” (the origin of this Fever) and it should be cherished; and should not be obscured by a revival of exploded ideas and once popular prejudices. These incendiaries often usurp the throne of reason and bid defiance to arguments.

Beside the imperfections in medicine which tend to render this subject difficult, the whims of the illiterate are to be encountered. In cities like this, local interests, as well as prejudices, are involved in an enquiry into the cause of pestilence. And they have a powerful tendency to defeat the truth—They throw a cloud over literature—they make men stupid and blind to their own fate, and they cause a spirit of resentment to spring up against the one who dares to point out a nuisance to the proprietor, and to stigmatise it with the character of destroying the greatest of blessings (HEALTH.)

It is nevertheless a consoling circumstance that these unjust feelings of enmity and resentment *can only exist with men of little minds.* With the *liberal man of honor*, full scope to impartial investigation will be allowed, and if that purity of motive which should actuate every one who attempts to say any thing on this subject, is observed the author of any exposition as well as the executor of any measure having in view the general good, will be viewed in a very different light by him.

Property without health is worth but little compared to its value when accompanied with this rich blessing. In adopting measures to preserve the general health you will preserve the health of the property holder and you will silence his clamours of consequence. But the indignation of many of the vulgar, must, and will, be excited in the first instance.

This is a circumstance much to be regreted, yet it is not a sufficient reason for withholding *one ray of light* which promises to be useful. The truth is called for from the silent tomb—it is called for by the tortures of an immense multitude at home—it is called for by the inhabitants of sister cities, and it is called for by the public at large in a language not to be resisted. Therefore, let the medical man, who regards the fate of his fellow man, sternly and resolutely fix upon and expose the ruinous consequences of the existing nuisances of this place, and let the Corporation fulfil their pledge to the public, and we may be secured against Yellow Fever.

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Perhaps Sir, on viewing this subject in an attitude so highly important, responsible and delicate as I do, a becoming diffidence would plead for me a sufficient apology if I were to decline pursuing it any farther. This inference is the more reasonable since there are so many aged and eminent physicians among us, from whom it is natural to suppose, you will receive every requisite information for the use of the City Council. But a sense of duty, heightened by the recollection of

the scenes which I have witnessed, and the part which I have borne in the misfortunes of this particular section of the City—a desire to pay that respect which is so justly due to your polite request—and an inclination to redeem the hasty promise which I have made to you, all urge me on to attempt that which my pen shrinks from; and which, should have fallen into abler hands.

If however, it should be received as a correct principle, that “in every disputation facts, with their analogies and arguments, with their necessary bearings should overbalance the weight of authorities,” the following pages may be of some use, for they consist chiefly of historical facts and the application of certain WELL KNOWN NATURAL LAWS.

## THE SEASON.

THE year which has now nearly terminated has been remarkably warm, dry and calm.

In the months of January, February and March, we experienced an unusual small quantity of rain, frost and snow. During these months the ice on our waters was inconsiderable compared with that of former years at the same season.

In April and May, the weather was much warmer, as well as dryer than we are accustomed to experience. The farmers in many parts of the neighboring country sustained great injury by this heat and drought. The streams were so reduced as to stop several mills.

In June we experienced a degree of heat nearly equal to that of tropical climates. On the 1st of this month at 2 o'clock, P. M. the mercury stood above 74° of Fahrenheit's scale, and was never so low again during the whole month. On the 9th it stood at 96°.

The mean degrees of heat for this month was 84°.

The prevailing winds were from the S. E. quarter about fourteen days of this month. For the remaining days they were divided and blew from the N. W. N. E. and S. W. nearly an equal number of days.

We had three rainy or showery days in this month, accompanied with lightning. The water which fell amounted to 1 1-10 inch.

In July the weather was still hotter. At 2 o'clock, P. M. on the coldest day (3d) the mercury stood at 74° on the hottest (31st) at 98°. The mean degrees during this month was 86°. There were several showers, during which, fell 2 2-10 inches of water: but there was only one cloudy day during the whole month.

The prevailing winds were much as in June, about one half being from the South East.

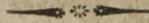
In August the state of the thermometer at 2 P. M. was as follows: The highest (on the 14th) 100°. Lowest (24th) 72°. Mean 86°. N. W. winds 3 days, N. E. 8 days, S. E. 14 days, S. W. 6 days.

The rain which fell during this month was 4 3-10 inches. This quantity of rain was inconsiderable although it far exceeded that of the two preceding months.

During forty-two days of these three months, you perceive Sir, the breezes were from the South East. There was but little motion in the wind for this period from whatever quarter it came. A constant calm, drought and extreme heat, prevailed and characterized the season thus far.

The month of September was not remarkable for any thing but the severity of the equinoxial gale. Neither was the month of October remarkable. The months of June, July and August of which I have given you the most particular account may be said to have ruled the Bilious Fevers of the season. And by a reference to the records of the weather of these months in former years when Malignant Fevers have prevailed, you will find a great similarity to have existed.

During the past summer the *tides* were considerably lower than usual. Several correct observers say that the water of our Basin has sunk three feet lower than it has been known to sink in ordinary seasons. The water was nearly motionless, and had a dark green and foul appearance. This appearance was most remarkable about the wharves and docks as shall be shown hereafter.



## TOPOGRAPHY OF THE CITY.

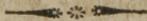
ON turning around and taking a review of the places where this disease had its origin in this City of late, a superficial observer will be able to point out but little that differs from many other parts of the City not invaded by this disease. There are notwithstanding most important distinctions to be drawn. These are in part natural but mostly artificial. Those who have suffered most from Fever, dwell on a soil made with their own hands, and with what propriety and judgment will be shown

This City is located in the vicinity of several marshes. The Patapo has numerous necks, inlets and creeks connected with it, all along its course from this City to the Bay, a distance of ten miles. Here the ground at large lies low. The swamps abound with vegetables—These die and putrify annually, and furnish miasma in abundance with all its direful consequences.

These marshes do not exist extensively nearer to town than two miles. The marshes located at Harris' Creek are nearer to Fell's Point than any of the others, and these are almost filled up by the wash from the high ground. The land in this vicinity is alluvial. It is mostly made up of course sand. The neighboring country, off the water, is high and rough. The Falls, as you are aware is a small stream. Small as this stream is, it affords the chief of the fresh water with which our inlet or basin is supplied. It penetrates and divides the town, but its water may be said to be nearly stagnant before it mixes with the basin water at large. During the drought of last summer this stream was reduced to a mere rivulet.

The ground on which the great body of this City stands, is high and commanding, with a descent to the south. It is solid and dry. The low ground around the waters edge generally, from Federal Hill to Harris' Creek, has been formed in part by the sand washed off the high hills, but in a great measure by earth hauled down from different places for the express purpose of raising it higher than it had been thus raised by the wash.

The ground in the neighborhood of Smith's dock, where we had the first cases of this Fever, is low and wet. In this place large quantities of shavings and other vegetables have gradually raised up the alleys, lumber yards and lots of this place at large. Several of the cellars here were found wet and filthy when the Fever first appeared.



### OF FELL'S POINT.

A considerable proportion of the paved and unpaved streets of this part of the City, have a level appearance. Their descent is nevertheless sufficient to carry off into the Basin all the rain and other water that should be carried off. This water in running off carries many filthy articles with it.

Some of these level streets have been built on made ground; *namely*, ground reclaimed from marshes and the water of the Basin. This made ground lies chiefly on the east side of Fell's Point, between the water of the Basin and the two lower squares of Ann street, a space which comprises a mere speck of this place. The natural foundation here is clay. This artificial ground has been made, or rather raised, to the present level with sand, which has been hauled down from the neighboring hills, and mud (as it is called) which has been dug out of the water and thrown up around the waters edge by the mud machine.

The artificial ground of Wolf street, at the lower end near the water, as well as the lots in that neighborhood, and the ship yards generally, located near to and binding on the water from this place to Fountain street, (a distance of four hundred yards perhaps) is mixed with shavings, chips, saw dust, and other vegetables. But these vegetable articles are not entitled to the character of permanent nuisances; their fineness of division being well calculated to render them speedily perishable. If they have once fermented and perished they leave innocent soil.

The recent examination of Wolf street showed that the remains of these articles which lie in that place, had become innocent earth. They had fermented in the early part of the summer. And during decomposition, they had given off their poisonous effluvia, and like a Bee, who had lodged his fatal weapon in his adversary and become forever disarmed, these articles were now reduced from the power of destroying, to complete innocence.

At the lower end of Pitt street, where the disease first became manifest on Fell's Point, the ground is natural, solid and dry. Here there was in former years, a high ridge of land, which was used as the foundation of a fort.

The cellars here, as well as the cellars around the wharves of this place generally, are dry and good. *They do not become filled with the water of the Basin during high tides.*

The cellars a little off from the wharves are liable to become wet towards the close of winter; and still further off at the foot of the hill, to be named hereafter, they are wet the greater part of the year.

The water lots here are wharfed out and the shores secured against inundation. The greatest swells, except when we have violent gales, are not sufficient to overflow the ground. There is no wet soil exposed to the action of the sun from this cause. The truth is, moisture was deficient in our streets last summer. The Cove, hereafter to be described, which is at a distance from the seat of the late disease, forms the only exception to this diffinition of the condition of the water lots.

So far as the lots bordering on the water may be composed of mud, raised up from the bottom of the Basin, it has become a question, whether or not our soil is healthy. For my own part, I am of the opinion that this article is innocent and wholesome.

The most of it appears to be sand, which has been washed down from the rising grounds into the water by the floods. As much of

this ground as is composed of vegetable soil, may with propriety be called the inoffensive product of that fermentation by which the raw vegetables have given off the noxious effluvia which was originally contained in them. Having already gone through this peculiar fermentation and given off this poison, it is idle and absurd in the highest degree, to suppose the same vegetables thus dissolved, broke down and changed, so as to leave nothing but their earth to be capable of undergoing the same process a second time, and giving off the same destructive vapor again. These vegetables have been exhausted of the poisonous cause which they once contained in them. This has been done by the first process. And they are now as innocent as sand.

There are many facts which prove this opinion. Several of these have occurred, and they still continue to occur, in common life.

For example : It is well known that the mud which was thrown up at the new dock, a few years since, and which lay there in great quantities spread abroad and exposed to the sun's rays, did not produce Yellow Fever—that which has been lying along the Falls and along the Block of late years, has not produced this disease—that which has lay exposed in like manner in the neighborhood of Pratt street, (where there are made grounds also) has proved harmless although exposed to the hottest season.

These facts have, in their result, astonished several, who, in theory, esteemed this mud the very kind of nuisance which was capable of generating the cause of this disease. Several other facts to the same purpose have taken place in this City, and are no doubt familiar to you. They need not be named in proof of this position. But I have witnessed several similar, and perhaps more powerful examples in point elsewhere, some of which shall be stated to you.

In the hot climate of South Carolina I have seen several large mill-dams opened at an early period of the summer season, exhausted of their water and the mud in their bottoms exposed to the action of the sun for the remainder of the summer, without Yellow Fever, or even Bilious Fever following as a consequence. Indeed it was the custom there with some of the proprietors of mill-dams, to dry them up in the spring, for the purpose of preserving their own health. If they did not pursue this course, the stagnant water in the dams being charged with vegetables; fermentation took place, and the vapor arising from an extensive surface originated disease. Dry vegetables and mud on the other hand remained harmless.

These measures are not always necessary however. When the stream on which a mill-dam is erected is small, and liable to cease running in the summer, they are indispensable to health. But on large and running streams they are unnecessary, and of course not practised. An excess of fresh water over the vegetable matter contained in a dam (although it operates in a different way from that of dryness) produces the same good effect.

The ground which comprehends the greatest portion of all that part of this City lying east of the Harford Run is high. A great share off it is known by the name of Fell's Point. [I have not the exact limits of this place.] Some of these high grounds, or hills as they are called, look down upon the whole City, the Harbor, the Basin, the River and a considerable extent of the surrounding country.

The Eastern Shore of this state can be seen from one of these hills on some occasions, as well as Kent Island and certain parts of the Bay. These rising grounds therefore, present us with situations for future improvements, possessing all the advantages and comforts of fine prospects, salubrious atmosphere and convenience to the weight of our commerce. They are as yet but partially improved. Those who have inhabited these improvements have rested in perfect security during all the past calamities experienced here from Yellow Fever. The very appearance of these hills is quite sufficient to convince me, that nature never intended that this fatal disease should reach the inhabitants, and that they should be hailed by us all as the abode of "nature's best gift, health." Under such circumstances, our condition may be contrasted with that of the inhabitants of New Orleans, Charleston, Philadelphia, and other large level cities.

They have no high hills to retreat to in full view of their property on the wharves. We still have high ground enough for the inhabitants of a large City to retreat to, and transact business.

The raw vegetables used for filling up, are the offending agents here at the present time, and not those which have been already reduced to their different elements and of which there is nothing remaining here but their earth.

A large quantity of vegetable matter has been used for filling in the wharves of this place. This consists of pine cord wood, pine tops, old barrels, chips, shavings, &c. &c. The pine wood constitutes the great body of this article, and will be liable to generate miasma for a series of years, whenever a season such as favors its generation occurs. There is no prospect of this wood becoming innocent until it is all dissolved, and its place supplied

by earth—in other words, until it petrified. And this is a process which requires age after age to accomplish it.

I will speak more fully of the construction of these wharves and of their consequences hereafter.

The shore of this part of the City is naturally winding and crooked; but, it is indented by a large number of wharves, docks, inlets, &c. formed by art. The whole of this place might be said to stand out in the water, for probably the line of shore binding on the water is ten times the length of the space comprehended by running a line across the neck of land lying between the Cove on the east\*, and that on the west, by way of Fleet street.

On taking a view of the out lines of the shore or edges of the wharves at large, from the Cove on the east to the Block†, it presents us with a figure resembling the Apothecary's drachm mark (3) in extenso. The point which I shall call the south east corner of this place is the first and most prominent turn on the back of this figure. This corner is quite narrow and stands out in the water. Pitt street is the only street which leads to the water of this point. It runs obliquely down this neck of land in a south east course.

The south west corner of the Point forms the last turn of the drachm mark. This place is also prominent and is much exposed to the heat of the summer, but not quite so much so as the former corner.

The Cove, on the west of the Point, (and north of the Block, and south west corner, as aforesaid) lies between this place and the great body of this City. It is in fact a foul core in the heart of the City. On viewing its edges this place may be compared to the letter O. It comprises about twenty acres of marsh and water. About one third of this water washes the shores of Fell's Point. This shore, and the shore of that part of the Point described as resembling the drachm mark, make an unequal circular line around the improvements of the place of near two miles.

Thus you see Sir, we are nearly surrounded by water. But I am thus minute in order to show your council how much more the places, where the disease originated, are exposed to the action of the sun than other places, as well as to show that the disease did not originate in the vicinity of the Cove. The places named will be seen on your plat of the Harbor.

\* Formerly called Morgan's Cove.

† This Block binds on the great Cove on the west of the Point.

*THE DISEASES OF THE SEASON.*

THE diseases of this year have been characterized by the name of Epidemics. Such diseases have no doubt prevailed in many parts of this country. But as we have had no disease which has become general over the whole of this City, it is not fair to speak of the Epidemics of Baltimore. The Yellow Fever as well as other diseases have prevailed on Fell's Point, but, the whole of this place has not been invaded. It would therefore, appear more appropriate to use the word Endemic instead of Epidemic. If Epidemic is used the term can only apply to Fell's Point.

From the commencement of this year to the present time general diseases have prevailed here. From January to June scarlatina, measles, cholera Infantum, whooping cough, dysentery, &c. all prevailed and succeeded each other.

All these diseases have not been owing to the same cause which produced the Yellow Fever. It is however a fact, which should be well remembered, that a bilious habit was readily discoverable in the whole list of patients who suffered from these diseases here. Several cases of Scarlet Fever were attended with malignant symptoms. These circumstances are mentioned in order to give you some idea of the rise and progress of the cause of the Bilious Fevers which shall be hereafter named.

In the south east corner of Fell's Point from June to August, *Bilious*, *Intermitting*, *Remitting* and *Yellow Fevers* became the prevailing diseases, and they, succeeded each other, as the season advanced.

About the 22d day of July, the milder forms of Bilious Fevers began to put on *MALIGNANT SYMPTOMS*, and they thus grew, more and more aggravated, until the whole of them wore the highest characteristics of Yellow Fever. On this day, a fire broke out here, to extinguish which, required extraordinary exertions. Many of the inhabitants having engaged in this labour, they, became debilitated thereby, and of consequence, they were rendered more liable to the inveterate operation of the cause of these diseases than they had been previously.

These facts, furnished the most conclusive evidence that the Yellow Fever grew out of ordinary Bilious Fever, and of course, that it was only an aggravated variety of the same disease; and they should be marked down as the key by which to unlock the true author of our calamity. I am the more bold in urging this position, since it

will be found to correspond with the observations of many of the most able physicians who have detailed the result of their experience in this disease, as well, in several parts of the United States, as elsewhere.

At this time the important question with regard to the cause of those anomalies, or, high-toned Bilious Fevers, was agitated.

The idea of this cause being of foreign origin probably never entered seriously into the mind of any one who had a right to make up an opinion. There were nevertheless several who zealously sought for such an origin. Their enquiries, were, all in vain. The consequence was, that they abandoned their prejudices and preconceived opinions. It was fortunate for the subject, that no vessel had arrived under such circumstances as were considered necessary to account for the disease in that way, and the good sense of the enquirers rejected the ridiculous alternative of taking the case for granted without good grounds.

Several other persons sought for the putrid effluvia of hides and other animal matter to account for this disease. This was quite as irrational, and of course as unsuccessful an attempt as the former.

Some, contended, that an union of animal and vegetable effluvia was indispensable to the production of this disease. These were disappointed also, as might have been expected. Nothing can be more absurd than to expect the same product from materials so opposite in their nature, as are, vegetable and animal matters. But no animal matter existed here in a putrid state at this time.

There were others, however, who conceived the disease to be owing to vegetable effluvia alone. They sought for a source from whence this cause could arise. I was among this class of the investigators into the cause—in other words, I searched for a natural, rational and indigenous cause.

It is acknowledged that the remote cause of Bilious Fever is generated, in hot seasons, on low, moist, ground, covered with decaying vegetables. The filth which is suffered to accumulate by the neglect of duty, acting in concert with situations naturally liable to become unhealthy, may, and often does, furnish all that is requisite to the production of this disease.

Such being my impressions at the time this disease appeared, I took pains to point out all articles of the vegetable kind that I could discover, which seemed likely to become putrid and offensive. By removing such articles as seemed likely to be productive of miasma, I conceived, the disease might be checked.

It was at first hoped that this unfortunate section of the City might experience even spontaneously a happy deliverance from this disease, similar to that which had been previously experienced at Smith's dock. An example which justified me in hoping for this relief earlier than frosts, had also occurred at Philadelphia. The disease had continued to spread and rage in the most aggravated manner however from its commencement until about the 24th August; and deep despair began to hang over us. I now reported a large number of additional cases of "Malignant Bilious Fever," pointed out their origin and urged forcibly, "*that some powerful cause certainly existed about the lower end of Wolf and Pitt streets.*"

At this time I had beheld the natives, of all ages, as well as the foreigners falling victims to this malady. The youths of both sexes were peculiarly liable to an attack. The debauched could not be said to suffer, for of such there were but few if any to be found here.

On the evening of the day on which this report was made, the Board of Health accompanied by your honor, came down to the place aforesaid, with a view "to search for the cause and *exterminate it if possible.*"

The reports were regularly called for, and received after this time, for what purpose, or to what advantage, I know not.

On this interview with yourself and the Commissioners of Health several nuisances were pointed out. Among them were a few old and decaying arks, some hulks of vessels, some masts and spars lying partially covered with water, and some foul ballast. These were esteemed moveable nuisances.

The ballast of the ship United States having been recently landed on Donnell's wharf and found to be foul, it was also considered a nuisance, although it could not be said to have had any share in originating the Fever. The Fever had existed several days previous to the arrival of this vessel. The removal of this article by water was recommended, lest the hauling of it through the streets might impair the air for a time.

The chips, shavings and other vegetables which have been named already, were pointed out, as sources, from whence, the cause of this disease was emitted. And such measures as were calculated to extinguish these sources of mischief and prevent farther exhalations from them, were named. This perhaps was my duty as a citizen,\* but certainly it would have come better from responsible

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\* Several other Physicians also attended this meeting.

medical counsel. A Board of Health totally unacquainted with the very object of their commission, could not be expected to do their important duties correctly.

The execution of such measures as had been proposed, was soon attempted; and had progressed considerably, in a few days. And I am sorry to say what was done was at the expense of two valuable lives. Frederick Reese and ——— Trimmel both took the disease while engaged in this business, and both died. Each of them left widows, and the former several orphans. I have already recommended these destitute widows and children to your care. But I mention these circumstances here as an important lesson: for, this work might have been done at a proper season, in perfect safety—It might probably have been done even then, by so large a number of hands as would have made the exposure to the cause short, and the attack less certain at least.

The ships at large were hauled off from the wharves in a short time. This measure relieved us of rotting hulks, and saved the hands on board such vessels as were in good order from the effects of the noxious vapors which had been plainly manifested to exist about the wharves. The ballast and many other moveable articles, were taken away by water. The shavings &c. were covered with earth and lime. A considerable quantity of *lime* was spread abroad, and strewed about in the gutters and several other damp places in this vicinity.

But all this was done in vain. It availed as nothing. This dreadful malady spread its ravages and grew more aggravated as the season advanced. It became a general disease of this place previous to the last of August.

It was now evident that something deeper rooted and more extensive than any physician or other citizen had named, still remained to be discovered, in order to account for this disease.

From the above named interview with the board of health, I had taken great pains to prevail on the inhabitants to retire from this place. About this time you were also importuned to use your influence and authority to the same effect. Your co-operation as far as your influence went was given with advantage.

In the mean time a disease of the same character, had sprung up at the south west or opposite corner of the Point.

Here there were but few visible nuisances—None were seen above ground worthy of notice.

The foundations in this quarter are natural, solid and dry. The streets are clean. The cellars good. No filthy nor foul odours can be perceived. The inhabitants are among the most wealthy. They are orderly—They are decent—They are cleanly. It is a gross libel to say that our first cases of disease on either corner of the Point, originated among the drunkards and disorderly. Even when the disease spread, such characters were not the most susceptible of it. Yet their chance for recovering, when once attacked was but slender indeed.

The Fever in this latter place, in its beginning, also put on all the inferior grades of Bilious Fever, and grew up to the highest grade of that disease. It spread along the water until it had met the Fever from the opposite quarter.

Deep gloom and dismay, were now pictured on every countenance. The enquiry what shall we do to escape this destroying enemy, was reiterated again and again. Many who had hoped for a speedy termination of the disease, and others who had determined to brave the storm, now shut up their houses and fled for safety elsewhere. There were nevertheless some, who were foolish and hardy enough to remain at home when it was in their power to remove.

The condition of the poor was now pitiable in the extreme. Their humble dwellings had been to them as sweet as the mansion house is to the rich man. Their prospects were ruined. They had not the means to procure similar dwellings elsewhere. Many of them laboured under chronic diseases, which made them view an encampment as the picture of death with all its horrors. Others possessed, it is true, superstitious foibles, and raised up unreasonable objections to removing. But this was natural to them as well as other men.

The result of all this was, that many of them remained behind as a prey to a cruel enemy. And these detained others who were willing to endure the greatest hardships elsewhere, but were also willing to remain and nurse the afflicted.

Amid all this confusion and universal dread of disease, the previous question, why such should be our miserable condition, was frequently propounded. And well it might: for it was justly urged that vegetable fermentation was a process, which, under ordinary circumstances and with a moderate quantity, of the material, would extinguish itself; and of course, if the Fever was owing to that process it would also subside with the fermentation, instead of running on until frost. The question therefore was not then solved to the satisfaction of any one.

At this moment it was intimated to me by a wharf builder, (for the first time that I had ever heard it) that *pine cord wood had been thrown into the wharves for the purpose of filling them up to the proper height.*

There being several large wharves on the south east corner of the Point where the Fever first commenced, I now directed my enquires into their condition. These wharves had been built thirty or forty years. Cord wood was cheaper at that time than the hauling of its bulk of sand.

I made it my business to enquire what quantity of wood had been thrown in, &c. &c. No history of the improvements of this place having been recorded, my information could only be gained from the inhabitants. Many of these from whom information was to be expected had removed. At length I fell in with Richard Waters, Esq. who informed me with all the frankness and candor of a gentleman, that immense quantities of pine cord wood had been thrown into his own and other wharves in this neighborhood. [Several other wharves around the Point, and elsewhere, have been filled up in like manner.]

By making a proper personal examination and further enquiry of others, I found, that in erecting these wharves they were encircled in the first instance by a row of piles, which had been firmly driven down into the mud some distance out in the water with a proper apparatus. For the purpose of filling up a circle of piles, large pens or stacks of wood had been built up, fastened together, and sunk to the bottom with stone, and continued until the wharf was raised high enough to lay down a sufficiency of regular rows to elevate the foundation some distance above the waters surface. A thin stratum of earth was then placed upon this wood. This earth makes the wharf present the appearance of the most solid earth.

A great share of this wood has stood above the water's surface at all times ever since these wharves were first constructed. At low tide, still more of it has been out of water.

When this examination was made the air had a limited circulation through the upper portion of the wood, between the water and the earthy covering. The water passed in among the great body or deeper portion of the wood under ground, to an unknown but considerable extent.

These facts having come to light, it was obvious that every requisite for such vegetable fermentation as is quite extensive enough to account for the worst calamities from Yellow Fever, except increased temperature, had been present in this place at all times,

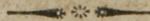
ever since these wharves had been erected; that, every summer's heat had been sufficient to set this process into operation in one degree or other; and of course, that, more or less of the cause of Bilious Fevers had been generated here during the hot seasons of the whole of this period. The diseases of this place had corresponded with this train of reasoning as far back as I had been resident here, and I had heard of similar diseases originating here for some time back.

Hence it was that I formed the opinion respecting the cause of our affliction, which I transmitted to you on the 1st of September last. This the only rational opinion which could be formed upon the subject, you perceive, was new to myself. It was not withheld from you nor my medical friends any longer than the difficulty which attended the necessary investigation rendered indispensable, whatever insinuations to the contrary may have been circulated.

A conquest was now gained—Light had triumphed over darkness. Doubt and obscurity were reduced to plain demonstration. That which should have been known, acknowledged and improved upon, by those who had gone through the Epidemics which had devastated this same spot while I was young, was now for the first time seriously mentioned as the cause of these calamities.

The advantages to be derived from a proper cultivation of this newly acquired knowledge were pictured before me in imagination. And amid all my difficulties these considerations occasioned some pleasing emotions.

But on weighing the magnitude of the evil which had been thus opened to my view, and reflecting that no relief was to be expected previous to cold weather, and farther, that the cause might not be removed for some years, and of consequence that we should be liable to returns of this disease from year to year, considerations of an opposite cast presented themselves. Under existing circumstances it was plain that every hot and dry season would revive our enemy.



Having thus far stated to you in detail, several circumstances which led me to discard every thing except the wood lying under the floor of the wharves of this place, as incapable of producing Epidemic Yellow Fever, I now come to apply principles, and enquire why such a disease should appear here in one season and not in every season, and at this particular place, while the inhabitants living near to other wharves, having wood in them, have remained healthy.

The cause of *Bilious Fever* is termed MIASMA. And when I speak of it I allude to a certain product of vegetable decomposition—or, if you please to the natural product of vegetable fermentation. It is a poisonous something generated during this fermentation. And it is directly, or indirectly, the cause of the whole rounds of Bilious Fevers. Miasma is therefore a terrible enemy of mankind, and furnishes a proper subject for legislative investigation, as well as scientific research.

It is evident that the low tides—the constant calm—the great drought—but above all the unusual heat, of the last, summer in common with one or two other, similar seasons, which we have experienced since the building of these wharves, have served to rouse into operation an uncommon degree of fermentation in this place. Other wharves similarly situated, as it respects the wood in them, have no doubt also felt the influence of these general operating agents in some degree. But the projecting position of this point of land—the consequent greater exposure of it to the suns rays—and more especially the unusual quantity of wood which is contained in these wharves immersed in the water and standing above it in a moist state, have jointly offered several general and permanent facilities to vegetable fermentation here, which have not existed at many other places where some of the same materials have been deposited.

In order to favor this process in such places much depends upon the fineness of division and the arrangement of the vegetable. The quantity of earth covering the article will operate for or against the process.

I know of no other set of wharves as favourably situated for this process in all necessary respects, and as much exposed to the summers heat as those. Nor are there so many large wharves, in so concentrated an arrangement, and filled up in the same way, about all the harbour. Those at the south west corner of the *Point* will probably rank next in these respects. And when we come to compare the diseases there with those of the same nature on the south east corner there is but little difference, either as to the time of appearance or character of Fever.

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The water about these wharves had an uncommon dark green appearance during the prevalence of the Fever. The great body of the Basin water never had this evidence of foul and offensive qualities. But ultimately all the water from the *Block*, or near

to Patterson's wharf, eastwardly, to the whole extent of the improvements, assumed this striking and obnoxious aspect, near to, and for a short distance out from, the wharves at large. This was plain to every common observer, and *this is one of the strongest marks of decomposition of the wood.* There were also other signs of fermentation and the escape of the product thereof in an ærial form. But this appearance of the water attracted my notice and merits yours most.

To give you a plain idea of this phenomenon you may consider it as a stubborn fact, that the coloring matter which this water held in solution, was sufficient to stain, newly dressed pine wood, and even painted surfaces.

The only rational conclusion therefore is, that this water contained something in it which was foreign to its composition. Pure water has no such coloring.

The next enquiry is how this color was acquired? This will be easily solved on reflecting that it is the nature of every raw vegetable to undergo one change or other under all circumstances, and that in every such change something is given out. The solvent capacities of water even at low temperatures are considerable. Sound wood gives out to water some of its properties. Whatever is given off in this way by the wood and is held in solution by the water, is foreign to the water's composition; and thus during even a short contact of wood and water, the water dissolves and holds in solution some share of vegetable matter, of which you may be convinced by calling to mind how short a time it requires for water to acquire the taste of the wood of a clean bucket in which it is placed.

It is not at all surprising therefore that the water which stood nearly still at this time, in contact with such a body of vegetable matter, should have become foul. It was highly charged with dissolved wood.

Heat, or increased temperature greatly enlarges the solvent powers of water, and decaying wood is easier dissolved than sound wood. But if this wood was even sound, the water which stood around it during the heat of last summer, could not, nor did it, fail to become charged to an uncommon degree with some of its properties.

The process of fermentation accumulates heat. But independant of an extensive fermentation in the wood, and the heat accumulated by it; heat was not wanting. Neither do I believe this kind of fermentation is always necessary to the formation of the cause of Fever.

If, as many contend, the wood in this place did not ferment in mass, and become dissolved, or decomposed entirely, the process of fermentation could not fail to go on in the water, and such portion of the wood as became dissolved. The water mixed with the wood, and held in solution, large quantities of vegetable matter at all events. The cause was therefore engendered without the wood being rotten throughout, although the soft and soluble portion of it was in a state of decay. Fermentation, you are no doubt well aware, progresses rapidly through various stages, when meal and other vegetable articles are dissolved in water; and why should we not expect the same thing to take place here? We know therefore, (and it is quite enough for us to know,) that every thing which was necessary for nature to effect her operations according to her own laws, and form miasma from this vegetable matter, and water was present here at this time.

It might be said that this foul stagnant and offensive water held this vegetable cause in solution. But be this as it may, the broad and incontrovertible fact that the water of this place contained something in it which was not one of its constituent parts, stands as a firm rock for us to rest upon.

To find how this water with its contents, rose into the air of its vicinity, it is only necessary to call your recollection to the process of evaporation. This is also an operation of nature. But this process is greatly facilitated by increase of temperature. As has been already stated, the mean heat \* was unusually high during the summer months, but the heat accumulated here by fermentation, is to be added to the general temperature of the season. Therefore, this process, was at this time and place, such as may be properly compared to the raising of steam from the surface of a fluid contained in a cistern, which has been placed over a fire or heated furnace; and great quantities of this foul water with its coloring matter and poisonous qualities, must of necessity have been thus raised up into the atmosphere of this vicinity.

It has often been a subject of enquiry, how Miasma is disposed of after rising into the air, as well as how it is raised. Whether it unites with the air or undergoes any change whatever after rising from the water's surface, or not, has never been satisfactorily demonstrated.

It would appear most probable, that this poison, after it rises, is merely held in solution by vapor—is suspended for a short time

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\* The mean heat of June was 84°. Of July 86°. Of August 86°.

in the air, and then gravitates to the earth. This opinion is warranted by the fact, that general miasmatic diseases are only found to originate near to water, and on low, moist grounds. Sporadic cases may originate on high grounds, but they are to be referred to evaporation also, arising there, from some local and limited moist, or wet, nuisance, of a vegetable character.

These matters of opinion are however not necessary for our present purpose. They may be laid aside therefore. And it may be fairly said, we know there was something engendered here of late, which was at first held in solution by this water, and was subsequently raised into the air of this place. This will not be denied by those who have a right to say any thing on the subject, from personal observation, and from an acquaintance with natural laws. These laws, you, may say, are inscrutable. But the result of them is not. They have ever, and will ever tend to the same end. And let us see what the result is in this and similar cases.

Upon this ground then it may be asserted, (and no man of common sense will contradict it) that some matter (miasma) which was foreign to the natural composition of the air of this place, floated about with it at this time. Some portion of whatever this air contained, was therefore of necessity breathed, or swallowed, by the people who came within its limits. And the properties of the foreign matter in this air must be decided upon by the effects which it has had on those who received it into their habits.

What have these effects been? Has this foreign something, sickened the inhabitants? Or has the air of this place supported and cherished the health of all, or of any, of those who breathed it at this time.

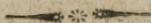
This, is what, pure and wholesome air ought to do. But the poisonous effects of some article, which was not atmospheric air, were daily manifested in this place, until the processes just described had been terminated by a law of nature, having an opposite effect to those which favor the formation of miasma.

Vapour condensed constitutes dew or fog. What color had the dew and fog of this place at this time? The former had not that of "the pure crystal dew drop of the morning." Nor had the latter that of the whitish mist which arises from pure water. They were both dark. The coloring matter in the water had been exhaled. This much of the original contents of the water we know without argument, or the application of principles, if we are allowed to believe our senses, rose into the air with the vapor. It might be said with propriety that certain deleterious effects of this article were made known to the senses likewise. For independent of this miasma excit-

ing Fever in many, all those who stood around these wharves and attended to the various phenomena of the place, experienced an uncommon smell and taste, a giddiness of the head, &c. &c. And can any man demonstrate to you that this air contained other matter which was liable to vanish as a dream or phantom, simply by the natural change of the season.

As already intimated, it is a principle known and acknowledged, that low temperature, or cold weather is unfriendly to fermentation, as well as to all the other processes just described, by which miasma, or the cause of Yellow Fever, and all the other grades of Bilious Fever is made and raised into the air. Vapor is now changed into frost, instead of dew or fog. Hence it is if our ideas be correct, that "these Fevers terminate on the approach of frost." This is a necessary consequence. These are maladies of season it is well known. And how exactly do these processes spring up and subside with the natural season.

I have now accounted for the origin of these Fevers here, and I defy all the philosophers of the City, to account for them on any other grounds, which will not run counter to common sense and observation.

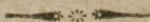


The spreading of this disease along the water's edge, is an important enquiry.

Water when charged with foul and pestilential qualities such as I allege this water to have contained, is liable to move along the shore some distance in either direction, from the place where these properties were originally acquired. It is evaporated in all the places to which it is thus transplanted. More or less of the cause of disease is raised with it, and is sown in these vicinities also. But where materials, similar to those from which the original deleterious properties of the water have been derived, are planted in other wharves, and other places, along the shore; any strength which may have been lost by mixture with more pure water, is there regained. And vapor rises there, with its full share, of poisonous strength. And hence it is that this unwelcome enemy sneaks along the water's edge step by step. The seeds of disease and death are thus raised and spread abroad along the banks, bordering on this strengthened slow moving water. And they do not penetrate into the high and central parts of cities.

Thus you see Sir, that water which stands perfectly still, in contact with decaying vegetable matter, accumulates and concen-

trates these poisonous powers. This is what is understood to be the effect of stagnant waters. But water in its perfect purity, or natural condition, never ferments, nor does any mischief. It must be charged with foreign matter before it will ferment.



By reversing the above case, and arguing from the same principles it will be found that water, however foul it may be originally, on moving and mixing freely with other and fresher water, will become so diluted and weakened, that vapor rising from it will not excite disease.

As an example in direct proof of this position, I will state to you that the Falls may be considered to have been a strong barrier to the spreading of our late Fever, from the Point to the great body of this city, lying west of this stream, and bordering on the water of the Basin.

This stream of water has had its course changed of late, as though such change were intended to effect this desirable object. This has been done since our last general calamity from Yellow Fever.

This water is now emptied into the Basin near to Patterson's wharf, F. P. through the draw bridge on the Block. On striking said wharf, and meeting the water from below, with its peculiar action against the wharves, this water is reflected back towards the head of the Basin. Indeed when the stream is high the current is turned as it passes through the bridge, nearly in this direction. But this stream was now reduced to insignificance. And it is highly probable, the supply from it, and from all other water running into the Basin, was not equal to the waste of water from the whole surface of the Basin by evaporation. In this case the water of the Basin preserved its depth, or rather its level, by supplies from the river. The motion of the water in the Basin was therefore from east to west, and it had a tendency to carry the water of the Falls to the head of the Basin. The diluting effects of it there have proven salutary in a high degree. [This is suggested. It may be proven hereafter.] But at all events the condition of the water which lay about the draw bridge, must have been better during the hot weather than that about the Point at large, owing to this constant supply of fresh water. And it has furnished a bad conductor for miasma. In other words, it has obstructed the foul water which lay here, in its movement

towards the head of the Basin, above the bridge, and into the Cove.

No part of this cool water (of the Falls) could have reached the south east corner of Fell's Point during the great heat of last summer, for the reasons just assigned—Consequently the water here would have become more stagnant and foul than the water above the mouth of the Falls, if every other circumstance relating to the situation of the two places had been precisely equal.

But the correctness of the ground herein contended for, is still more forcibly illustrated by comparing the present with the former condition of the Cove,\* which lies between the Point and Town.

Perhaps about one third of the shores of the Point bind on this water.

It is now five years since the Falls were turned in their course by the Causeway or Block, on which the bridge is built, from a direct course into the Basin, to nearly a right angle towards this Cove. The fresh water of this stream now mixes freely with the water of the cove, and has a direct tendency to dilute cool and purify it, however calm, dry and hot, the season may be. This improvement even prevents the movement of the water from about the wharves of the Point into this place. The Cove water is consequently left pure and inoffensive in a great measure. How different then is the condition of this place now from that of former years? This will appear plain on making a comparison relative to the diseases which have prevailed here before and after the change in the course of the Falls.

More or less Yellow Fever has often originated on the borders of this Cove. The calamity of 1800, was chiefly referred to miasma arising from it. Whether the cause was then engendered in it or not, has never been settled. But that this plague was extended towards town, west of the Falls, by the poisonous vegetable effluvia arising from this great reservoir of pestilential water, can scarcely be doubted. My own opinion is that the water from about the wharves (which I am informed had the same appearance that the water there lately had) moved round in this place and stagnated, and that miasma was generated more from this species of vegetable matter, than from vegetables in the Cove itself. At all events,

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\* See Page 101.

the Cove was then a most formidable nuisance. Indeed Bilious Fevers, of a higher than ordinary grade, have originated there many seasons since the above named general visitation. During the very autumn preceding the aforesaid change of the course of the Falls, there were at least two of the worst cases of Yellow Fever in Wilke street, near to this place, (viz. Scott and his wife.)

Since this change in the course of the Falls, Bilious Fevers have been less common near this place. But last summer and fall the happy consequences of this improvement became most conspicuous, and the circumstances merit the strictest scrutiny. I believe there was not at that time, a solitary case of Yellow Fever, the origin of which, could be traced to this place. To the utter astonishment of all who reflected on the scenes of 1800 here, *the inhabitants of Wilke street and those, on, and about, the Causeway generally, as low down as Fleet, on Carolina street, who remained at home, continued HEALTHY during the whole calamity.*

A few cases of *mild Intermittent Fever* did occur between the lower end of Carolina street and Trinity Church, and probably a case or two of mild Remittent Fever originated in the same range. But these mild cases show that although miasma existed there, it existed, only, in a diluted state, and that its strength was very different from the miasma of this place in 1800.

Having been called to a few cases of this description at an early period of our calamity, and having heard of others up the Harford Run, between Gough and Bank streets, in the family of one of the Hussay's, I anticipated the speedy approach of Yellow Fever here. But it turned out that those cases had been occasioned by some puddles or duck ponds of water, which were located near to the door, and were in so foul a condition as to kill the ducks of this neighborhood. These places soon dried up, and (although the mud at the bottom of them was afterwards exposed to the continued heat) no higher grade of Fever was known to prevail here between this period and the appearance of frost.

I had to contend with *Intermitting Fevers on Wilke street, facing Mr. Hussay's Tan-yard, and found similar diseases in most places around this Cove*; but never could trace a case of Yellow Fever to it for its origin, during the whole time of our calamity.

These are facts therefore which speak to the purpose, in a language much stronger than any thing that you can find in the most polished volumes of theory. The only just conclusion which can be drawn from them would of itself bear me out. For upon what other grounds than those assumed can any one account for the difference of the diseases here, in 1800, and in 1819.

I shall now consider the prevailing Bilious diseases of Pitt street, on the south east corner of Fell's Point, back to the date of the improvement thereof, and apply the important lessons which they furnish us with, as proofs, that the wood aforesaid has generated the cause of all the Fevers of this place of a Bilious and Malignant character, during this period. This enquiry must be general for I have swelled my letter too much already.

From personal observation, and from evidence collected in different ways, and from sundry persons, respecting these diseases, it appears, that some permanent source of miasma must have existed here all this while. That more or less of those diseases have existed here every summer or fall, is well known, and generally acknowledged.

In the mildest seasons, the Bilious Fevers here have not been of the malignant form, but they have always assumed a character (as I have already intimated) not common to other places in the same season. Towards the close of moderately warm summers, there have been sporadic or occasional cases of Bilious Remitting Yellow Fever here. In the hottest seasons Yellow Fevers have become a general calamity.

In 1794 and 1797 the Yellow Fever originated and raged here. In 1800 it had an origin here independent of the cases which were then referred to the Cove, and it spread general desolation. In 1808 it originated in this place in September, and *when, every other part of the City was exempt from it.* This was too late for it to spread to a great extent. The whole neighborhood from George street down to the water was nevertheless ravaged by it, before the cold weather checked its progress. Between this year and 1818 occasional cases of high toned Bilious Fever, attended with Hæmorrhagies, dark evacuations, yellow skin, red eyes, &c. occurred here nearly every season. They fell heaviest on strangers. In 1818 a native and too strangers had the disease.

The case of the native (viz. Richard Tear.) was rapid in its progress, and fatal in its termination. He died on the third day of his illness. The symptoms were highly characteristic of the Yellow Fever which followed in the same place in 1819.

Probably this case was owing in some measure, to miasma generated from the wood which lay in a wet and perishing condition, in Wolf street, in the form of shavings, saw dust, chips, &c. and it consequently appeared with more violence than the two other cases, which were a little remote from this nuisance.

This opinion is warranted by what followed there during the past summer. For there were several cases of this disease there then, which broke out in a short time after the first case took place at the lower end of Pitt street, (or at the wharves located there.) And until the general cause was fully developed, this wood was thought by many to be the only existing evil. But in common with some other nuisances which were pointed out by the populace, although, this served well to point to the great source of miasma arising from similar materials at the wharves, it was too trifling to account for the whole cause of disease.\*

In the present year, (1819) the Yellow Fever originated, as you are already aware, in this same afflicted spot. The first case of this disease in its worst form which fell under my notice. (in this City,) was on board the English Brig Neilson, then lying at Waters' wharf. (This was that of an Irishman of the name of Daily.) He was seized on board with this Fever, on the 25th July, and died there on the eighth day after the attack.

This unfortunate foreigner had arrived here early in the summer, and had taken his passage for Liverpool, on board this vessel. He did not call for medical aid until his case was hopeless. Consequently the fatal termination was attended with such symptoms as left no doubt of the nature of the malady.

Several other cases soon sprung up about this and the neighboring wharves. A death took place on board the George Washington on the first of August. This vessel lay at Wirgman's wharf.

The Ceres sailed from this wharf, and the Betty from Waters' wharf, about the middle of August, with from fifty to eighty passengers on board both vessels. Many of the passengers, and several other persons, on board each of those vessels, were seized with the Yellow Fever shortly after sailing. A large number on board the latter vessel, died, vomiting black matter, before she had proceeded out of the Bay. A less extensive but similar calamity was experienced on board the Ceres also.

The disease having originated in the manner described on board the shipping, it soon seized upon the natives residing here, and spread with the prevailing winds, one fourth of a mile, in a north west course, into the settlements on the low grounds. It also spread around the water westwardly, until it had met the Fever which had now sprung up on the south west corner of the Point;

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\* See proceedings with the Board of Health.

and along the water to the north east as far as the improvements extend ; a distance of, four hundred yards perhaps.

The Fever had spread over these limits, and originated in all parts of the space embraced by them some time previous to frost. It became stationary from some cause and never spread further.

There have been several reasons alledged for the limits of impure air ceasing to spread. The friends of contagion suppose the removal of many of the inhabitants to be sufficient to account for this phenomenon. This is a futile position. If contagion had any thing to do with the spreading of the disease, we should have had the whole City, and surrounding country, infected, by those who removed from the Point with the disease on them.

Other reasons (which I shall not notice) equally absurd, have been assigned.

The probability is, the cause had now reached its climax of power, and was too weak to produce disease at a greater distance from its source.

In the progress of this disease as aforesaid, a considerable number of the inhabitants on either side of the Point, continued to enjoy the best health. Although the cause, as has been already intimated, was spread or carried around the shore with the water; from this concentrated point where it first became manifest, it moved from the south east to the north west, penetrating the thickest settlement, just as smoke arising from a steady fire is moved along near to the surface of the earth by a gentle breeze, through forest trees, until it becomes dissipated, and diluted, and then vanishes insensibly. Whenever the wind shifted round, and blew from the north west, the progress of disease, in that direction was impeded.

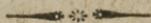
During the gale in September, the disease did not spread on the Point, owing to the wind having this direction. But the garrison at Fort M'Henry, who were now exposed to the wind, which blew over the wharves, soon began to sicken in such numbers, as to make their removal from the Fort necessary to their safety.

The rain, which fell about this time, had a good effect also. The water around the wharves and docks, very soon assumed a much less foul appearance, and lost its former strength, (if it is fair to judge from the consequences) for the disease not only ceased to spread, but raged with less violence for a few days.

This is a fact, which corresponds with sundry other observations, made elsewhere, as well as the doctrine held out in the

foregoing pages, when speaking about the good effects of the fresh water of the Falls.\* Several writers, who have treated of this disease, and have detailed historical facts, agree in this particular.

Last summer this effect of rain was noticed at Mobile, where the disease was supposed to be owing to a quantity of wood, similar to that which has given us so much trouble at home. In many countries and all ages, back to the remotest antiquity, disease has been as much the natural consequence of drought as famine. It is nevertheless a fact, that different local causes can be so far dried up, as to give out no vapor, and of course, so, as to become harmless. A certain degree both of moisture and heat, corresponding with the quantity of vegetable matter present, are necessary to excite the peculiar process which generates the cause.



Thus you see, Sir, a large number of the cases here, were traced for their origin to the air, immediately in this quarter. The cause of the cases which took place on board the Ceres and the Betty must have been generated about the wharves aforesaid, where the first cases originated, and from whence these persons had embarked.

The seeds of disease were either received into the systems of those patients at the wharves, or on board these vessels after they left the harbor. The holds of ships, lying about wharves, have often become filled with *miasma*, and after proceeding to sea in this condition, the Yellow Fever has repeatedly seized the people on board. It is highly probable that this has been the state of these vessels. But in any view of the subject, the result seems to show, that at the edge of these wharves, the cause of the Yellow Fever, which is under enquiry, was first manifested, and became most strong and powerful. And consequently, if *miasma* has been the cause of these cases (which I apprehend no man feels disposed to doubt) this cause must have been generated at these wharves. This is a necessary conclusion. And inasmuch as similar examples have repeatedly taken place here, for a series of years, under similar circumstances, they must also be referred to the same cause and source. It is utterly absurd to refer these diseases to a cause, the source of which, has not been permanent. It must have existed here during the whole period of years in which these diseases have prevailed.

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\* During this rain I attended to the course which the muddy water of the Falls took, and had an ample demonstration of its disposal, in the manner hereinbefore stated, when speaking of this stream. This discolored water, mixed with the waters of the Cove and Basin, while the water about the south east corner of the Point, was not changed in its appearance.

The wood in question, is the only source of miasma of this magnitude, and answering to this description. And to this wood must be referred all our past calamities from Yellow Fever.

By comparing the miasmatic diseases of this place with the Fevers of other places, farther, important, lessons, corroborative of the foregoing statements, may be adduced. This is a part of the subject on which a volume might be written. I only beg your indulgence however, while I mention a few instances, wherein the causes and the diseases correspond with the case before me.

It has been ascertained, that a quantity of wood, similar to that in question, has been used for the same purpose, in the wharves near to where the Fever prevailed in the City of New York last summer.

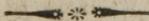
The same I am informed may be said respecting the wharves in Philadelphia, where the Yellow Fever has originated in past years.

Doctors Hansford and Taylor\* in giving a history of the Yellow Fever as it has existed at Norfolk, and the circumstances attending it, say, that "that part of the town where the Malignant Fever chiefly prevailed, stands entirely on made ground, reclaimed from the river, by sinking pens of large logs, and filling them up chiefly with green pine saplings, which are slightly covered over with earth or gravel."

In Charleston, in Savannah and in Mobile, wood has unfortunately been too freely used for the purpose of filling up wharves.

There are several other Cities and Towns, where the disease prevails occasionally, with regard to the condition of the wharves in which, I shall not speak. But wood has always entered into the wharves of our country at large, even for building them, in unnecessary, unreasonable and injurious quantities.

At New Orleans wharves cannot be said to furnish a source of miasma. But vegetable miasma arises in great quantities from coves, marshes and swamps, in that vicinity. If I am not very much misinformed, there is a large marsh quite near to the place where this disease originated, in that City, last summer, as well as many preceding summers.



The Bilious Fevers of this place, correspond with the Fevers of the same nature, in many places in the interior of our country.

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\* See New York Medical Repository.

Doctor Ramsay, when speaking of these diseases, in his History of South Carolina, says, "In their mildest season, they assume the type of Intermittents, in their next grade they are Bilious Remittents, and under particular circumstances, in their highest grade constitute Yellow Fever." This is the case as respects the diseases of Fell's Point, in Pitt and Philpot streets. And this is a good general definition of the Fevers of that State. But it does not apply to every part of the State. There are certain healthy and certain sickly situations. The sickly sections are as local and as circumscribed as the infected parts of Fell's Point have been of late. These diseases prevail on the borders of mill-dams, filled with lumber, in some of the upper districts, (in which the Doctor has not had attentive correspondents to furnish him with detailed accounts, such as he received from several other districts.) And here they put on "their worst grade." Yet *mill-dams* relieved of their wood, even in that hot climate, become inoffensive. The evaporation from them is innocent, (as before intimated,) if the stream is large.

The inhabitants of the whole southern section of the United States, who live near to mill-dams, filled with wood, and marshes charged with vegetables in a putrifying condition, are liable to suffer, and do occasionally suffer, in summer and autumn, from Bilious Fevers comprising all the grades thereof.

The Faculty of this City in 1800, in their report to the Mayor, have related several instances wherein this disease has appeared in the interior. Some of the examples, which were before them, occurred on the Ohio at Gallipolis, Mifflin County in Pennsylvania, and on the Genessee Lakes in the State of New York." They state further, that a "similar disease" occurred in that year "in Harford County, on the banks of the Susquehanna; on the Canal, in Cœcil County; in Charles County, in Dorchester County and in some other places" of this State.

The inhabitants of Baltimore County, who reside in the Necks and near to the inlets, low grounds and marshes, above described under the head of Topography, and where vegetable matter always lies in a perishing condition, are not strangers to this disease.\* Dr. Mace, who practises there, and who has a right to

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\* It is a common opinion, that the cause of the diseases of these places rises with the fog, so generally seen there. These fogs may carry something of a poisonous nature with them, although they do not necessarily cause the Fever themselves. Fogs partake of the nature of the water from which they rise. And if we judge from the effect, which the water of the inlets there had last summer on the fish, it will be fair to say, that they did

know what Yellow Fever is, from having seen it here in 1808, has informed me, "that he never had so many cases of Bilious Fever under his care, at one time, as he had last summer and fall—that several cases were attended with black vomit and stools, hæmorrhagies, yellow skin, and all the worst symptoms of Yellow Fever." He sees "cases of Yellow Fever annually in these places. But they only originate quite near to the marshes."

A disease of the same character prevailed last summer below this place a short distance; *namely*, at Canton and at Ceder Point.

The whole population at Ceder Point consisted of eight foreigners and six natives. Bilious Fevers of different grades took place among these people.

On the 26th June, one of the foreigners was seized with a Fever of high grade. The life of this patient was in jeopardy for six days. In the mean time several others had sickened. And a fine little boy, (son of James Bate an Englishman) died on the third day of his illness.

Twelve of these inhabitants had been attacked previous to the 24th July.

The foreigners all had a disease answering well the description of the Bilious Remitting Yellow Fever, which is detailed by Dr. Rush, as having prevailed in Philadelphia in 1793. The natives had mild forms of Bilious Fever.

This settlement was nearly depopulated. Many of the inhabitants fled from it, on recovering, as from, the most *deadly pestilence*.

The whole of these Fevers were owing to miasma; and from the proportion of the population attacked, you will agree, that their sufferings were comparatively greater, than those, of the citizens of Fell's Point.

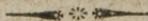
When I say these diseases were owing to miasma, I do it with-

carry with them, something prejudicial to health and life. For I am well informed, that immense quantities of fish were seen in the first instance sick, and afterwards dead, in many of these places. The same fact was observed about our wharves. Fish were seen inactive and floating about the wharves; and finally large numbers were found lying on the banks, near the Sugar House wharf, dead.

out fear of contradiction.\* For it is well known that numerous marshes, containing rotten vegetables, exist in this vicinity. Poisonous exhalations arise from them (and from Harris' Creek,) during every summer and fall. Those nuisances are permanent. Hence more or less Bilious Fever occurs in their neighbourhood every summer and fall. This is precisely the condition of Fell's Point both at the south east and south west corners thereof. At the commencement of the diseases of these divisions of the Point this year, they were as mild as they have been in many fall seasons. In their worst form and at a more advanced period, although they were Yellow Fever, they were nothing more than such diseases as often prevail, in warm climates, at a distance from cities, in certain local places, filled with wood and other vegetables.

The great regulator of all those diseases in any City, or in any place, where wet decaying vegetables, are found, is the existing degree of heat. This is a conclusion so well grounded in fact, as to bid defiance to theoretical disquisitions.

It cannot have escaped your own observation, that this disease springs up, nearly at the same moment, in hundreds of places, at a considerable distance from each other, and that it dies away at the whole of these places as the season grows cold. It is self evident therefore, that the Yellow Fever is indigenious to all those places, and depends on a cause of similar nature wherever it exists.



This disease has originated at sea, under circumstances which are also plainly demonstrative of its domestic origin, and equally so of the effects of wood in producing it.

Dr. Kollock has given a detailed account of this Fever originating on board the United States Frigate "General Green," after she had "sprung a leak at sea. He supposes the cause to have been generated by some marine vegetables, which were mixed with slate and other *imperishable* ballast. This supposition is plausible.

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\* It may be said by some perhaps, that animal and vegetable miasma combined, occasion the diseases of this place from year to year. But I know of no existing necessity for calling animal miasma into the account; vegetable miasma is indispensably necessary and no doubt all sufficient of itself. Besides animal miasma cannot be shown to have existed then all the time alluded to. The situation and result at Canton, were similar in all respects.

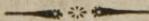
ble enough, if these vegetables were in sufficient quantity. But the probability is, the wood of the vessel, as well as the water casks, had some share, perhaps the greatest share, in charging the water in the vessel's hold with the vegetable matter, necessary to fermentation and the generation of miasma.

An instance similar to the above took place on board the English Ship Hankey, after she had been nine months at sea. The disease destroyed three fourths of all hands on board. This is fully detailed by Dr. Chisholm.

Dr Lynd details several instances wherein a few cases of Fever originated in this way, at sea, in the British Navy. He mentions one remarkable example of the effects of the vessels wood, as I am disposed to consider it to have been. This is that of a British Frigate on her way home from this country, "with a seasoned sound crew," many of whom suffered from Malignant Fever. They "became infected," (he says) "as it would appear, from the closeness or damp below, occasioned by the hatchways being kept shut." Now, whatever water was in this vessel's hold would become highly charged with the wood of the ship, and water casks, and therefore the cause of Fever was generated in the hold.

In hot seasons, old ships, in a leaking condition, lying in our harbor, might, upon the same principle, generate the cause of this Fever on board. On long voyages the same might occur, and I apprehend has often occurred, previous to, or about the time of the arrival of vessels. And in such cases, the inhabitants residing near to the vessels, are liable to sicken. But instead of this being a proof that the disease is communicated by contagion, it proves the contrary. Nor can general disease take place from such a cause alone. But no vessel had arrived here last summer, either with sick persons on board, or with nuisances on board, in time to originate this Fever. I speak positive, for I visited all vessels at this place, with a view to acquaint myself with facts as they existed.

Vessels lying in crowded rows, in docks, and about wharves, may have had bad effects in two other ways. They may have rendered the water, in these places, more stagnant, and the water may have dissolved certain portions of their wood, and become unwholesome in some degree. But their agency alone would have been insufficient.

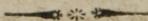


Having thus far endeavoured to direct your attention to vegetable miasma, as the cause of this disease, and to the chief source

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from whence this poison has arose, it appears unnecessary for me to dwell on contagion, and apply, evidence, calculated to prove directly, that it has had no agency in producing the late Yellow Fever. If I have succeeded in establishing the ground assumed, this Fever was not contagious. If I have not, contagion might as well be said to have originated it, as any other cause which has been named. For there is nothing but the miasma which has been generated from this wood, capable of accounting for this disease, as it has appeared here from time to time. But inasmuch as you have proposed the direct question, "do you consider the disease contagious under any circumstances," I am prepared to give this question an unqualified negative. Contagion, I believe, only exists as a cause of Yellow Fever, in the minds of a few *idle theorists*. It would be perfectly useless to "enumerate" to you, "all the cases which have fallen under my care," calculated to shew the correctness of this remark. Let it suffice, to say, that among all that I have seen of this disease, there has not been the slightest reason to suspect it to be communicable from person to person, either directly or indirectly.

Detailed accounts of the occasional visits of this Fever in our country, as far back as 1699, have been published, and in every instance it has been remarked, that it has in no case originated beyond certain limits of air.\* Thousands have gone through this disease out of those limits, and where it could not have failed to be communicated to other persons, if contagion were the cause. This is all the proof that need be required on this point, by men who will suffer their reason to regulate them, instead of their prejudices and fears.



I now come to speak of the best methods of preventing a recurrence of this Fever, at this place.

This is the most difficult, as well as the most important part of the subject.

To me it appears, as advised by my friend *Dr. James Smith*, of this City, agent of Vaccination for the U. S. that the plainest and

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\* To say that the air makes the disease contagious, and at the same time to say, that the contents of the air is not *the cause* itself, is a species of philosophising truly odious. Contagious diseases are communicable from person to person, in the country as well as in cities. I am aware of no exception to this remark.

most direct method of obtaining future security, would be, to pursue a plan similar; or follow the pure and wholesome course, which was prescribed in such cases, by the great law giver of old, and provide by law, that every particle of the above named body of vegetable matter, shall be torn down and cast away. "in an unclean place without the City."\* Have this done and we will be secured against Yellow Fever.

But no doubt you are ready to say, the extraordinary expence which would attend this measure, however desirable it may be, renders it impracticable. This is your concern. I have acquitted my conscience and fulfilled my duty, and I have done nothing more than my duty, by exposing the existing necessity for a measure of such magnitude. And this is what you have repeatedly requested. I would further remark however, that he must be in error, who thinks any price too great to purchase health. Health is all important—Its value cannot be estimated. You would think a man mad who would sit down and ask you, what sum of money, would be sufficient compensation, for your having the Yellow Fever, so bad, as to be attended with black vomit?

But as respects the enormity of the expense, it may be said, that even the direct and indirect burthens and pecuniary losses sustained by our citizens at large, during our last calamity, (if the whole amount could be calculated,) no doubt exceeded the sum, which might have saved us from that, and similar visitations, forever, if it had been properly applied. Under existing circumstances, we may expect this plague to visit us every future summer, similar to the past.

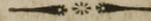
And if such seasons and calamities take place often in succession, our loss will be still more incalculable. It may amount to the utter ruin of the City. This part of the City has not to this time, overcome the ruinous effects of the Fever of 1800. And much less, could our pecuniary concerns sustain, a succession of such Fevers. But for what or whom are you to legislate in the case? For money, or for life? For individuals, or for the community at large? For yourselves, or for posterity? Is not the interest of every individual who now lives in this City, or may live in it for many generations unborn, involved in this business?

All are to be benefited and secured; and all should bear an equal portion of the expenses required.

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\* See Leviticus, chap. xiv. verses 40, 41, 42, 43, 44 and 45.

The wharf owner is not answerable for what has arisen from the construction of his wharf. No law has existed prohibiting filling up wharves with wood. This has been done without knowing or foreseeing the consequences. The owners cannot remedy the evil. It must be done, if done at all, at the expense of the City at large. And in that way I am disposed to say, that it is practicable to have our lives and fortunes secured against the inroads of Yellow Fever.



With regard to any improvement that can be made in the wharves, with a view to secure us, in the "cheapest mode," probably nothing positive can be said.

Stone walls, such as have been built at Pratt street wharf, if they were substituted for the present walls around these wharves, would avail us nothing. The water and the air would still pass among the wood under ground. The aerial product of the fermentation of the wood, (if there be such a product,) would find its way through the water at high tide, and through the air at low tide, to the lower edges of these walls, and there it would escape into the common atmosphere. *The water would become as foul and as poisonous as ever. And this is the most important point to be guarded against.* Moreover, such stone walls as these, having piles for their foundations, would not stand the action of large shipping. They would be battered to pieces by the first gale.

If any improvement of this nature is made, the wall must go to the bottom, or it will be useless. The water of the docks must be kept from the wood which lies under ground. It has occurred to me, that this might be done, by driving down two rows of jointed, tongued and grooved, square timber, or piles, at the distance of a foot or two from each other, and puddling the space between them with clay. This is a doubtful mode of securing us, and of course not so adviseable as the removal of the wood.

I know of no improvement that can be made on the floor of the wharves. I have no idea that any portion of miasma finds its way out through the earth which covers the wood and forms these floors. Paving them would be a useless expense. Dry gravel is quite as good as pavement. The wharves should be kept clean.

Yours, &c.

—————, M. D.

*Fell's Point, Baltimore, December 20th, 1819.*

*APPENDIX.*

In suffering the foregoing essay to be published, the author has had no motive but that of serving the cause of distressed humanity. He conceives his name could add no weight to the production, and has therefore had it erased from the original.

The printer having been so polite as to favor the author with the reading of all the former pages of this article, it has been found that several typographical and other errors escaped his notice when correcting the proof sheets, which, it is hoped, the reader will be liberal enough to excuse.

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*M. D.*

*Fell's Point, Baltimore, May 29th, 1826.*

BALTIMORE, December 30th, 1819.

*To EDWARD JOHNSON, Esq.**Mayor of the City of Baltimore.*

DEAR SIR,

I avail myself of this occasion to answer the questions contained in your Circular of the 1st instant, on the subject of the late Epidemic.

The first cases of Yellow Fever which came under my care in this City last summer, were located near the water, on the south east portion of Fell's Point. These cases commenced in the latter part of July. All the cases from this to the 20th of August originated in that portion of the Point comprising Pitt street; and the lower ends of Ann, George, Wolf and Lancaster streets.

There were some foreigners attacked in the early part of the disease; but young persons generally were the greatest sufferers. The largest portion of the first cases were among the apprentice boys, who were engaged in the various work shops in this neighbourhood; but late in the season no sex, age, nor colour, was exempt from it.

About the 21st of August, the disease also made its appearance on the south west corner of the Point, in Philpot street, and continued to spread there until the place was deserted.

Having attended to many cases of Bilious Fever of high character out of the City, I beg leave to call your attention to that circumstance, before I give you my opinion relative to the cause of the Fever of this place.

These cases of Fever occurred at different places along the water's edge, between Fell's Point and the Lazaretto. Every inhabited place along this shore suffered greatly. I had about thirty patients at Canton, Ceder Point and the Sugar House, mostly, in the month of July. The family of Mr. Slater, who resided at Canton, all took sick about the middle of this month. They were immediately removed to his dwelling in the upper part of the Point, where ten of them lay ill at one time of a Fever, which carried with it many of the characteristic marks of Yellow Fever, such as black stools, yellow skin, hæmorrhage, &c. Some of those who resided at Canton, Ceder Point, and the Sugar House, were foreigners. They sickened early. Others of them were

from the Eastern Shore, and being more accustomed to the cause of this disease, they did not sicken until later in the season. But they were then severely attacked. One of them died of black vomit. Of those at the Sugar House, one was a foreigner, and had a highly malignant disease, attended with hæmorrhage for several days. This patient had not been on the Point, nor from home, during the sickly season.

I am thus minute with those cases of Fever, to show the analogy between them and the Fevers which prevailed on Fell's Point shortly afterwards, believing that every person will agree that all the cases of Fever here related as originating at Canton, and in the vicinity of the water as near the Point as the Sugar House, were the offspring of *Marsh Miasma*. The water along the shore, and that of the various inlets, in that direction, is rendered poisonous by the great quantity of vegetable matter remaining in it, and undergoing that change by which *miasma* is formed. And this poison is there taken up by evaporation during hot and dry seasons, with the water in the form of vapor, and is then wafted along in the air, to be inhaled or swallowed by the subjects of disease.

It seems reasonable therefore to suppose, that the Fever which prevailed at Fell's Point, was produced in like manner, by the vapour arising from our dock water, which had been rendered poisonous by the wood of the wharves, and the great quantity of timber suffered to remain in the water.

This does appear to be the case from the following facts.

It is now a well known fact, that immense quantities of pine\* cord wood, and other articles of the same nature, have been used for filling in most of the wharves, situated at the lower end of the Point. The dock water has access to this wood through the openings in the walls, built up with logs, to enclose this wood: the atmospheric air also has admission to this wood during low tides.

The water of the docks for some distance out was perceptibly changed in its colour† and appearance, during the sickly season.

\* I would here remark, that the first suspicion of this body of wood used for filling in the wharves of this place, being a prolific source of disease from its connection with the water under the earth of the wharves, was suggested by my brother, and by him reported as such, in a written communication to the Mayor, early in September.

† I refer you to Mr. Edward Dickinson, an old respectable inhabitant of Ann street, for more information respecting this fact. He remained on the Point during the whole of the sickness of last summer, and that of 1800, and says he observed this change in the colour of the water, at both these

This appearance of the water varied, according to its stillness, and the course of the winds.

The Fever commenced near the water, and prevailed most along it, as far as Patterson's wharf. The progress of this disease westwardly from the water, was slow, well marked, and seemed to depend on the south easterly winds for its quick or slow movement.

From these facts I should suppose, that had the cause of this disease been generated in our streets, cellars or lots, the Fever would have made its appearance at many places at one time. No difference can be pointed out in our streets at large. We have wet cellars over the whole extent of the Point, excepting those streets nearest to the water, where the cellars are generally deep and dry. And in those streets the Fever raged first and most severely.

I was led at first from the similarity of the Fever which prevailed at Canton, the Lazaretto, and other places along the shore, to those cases of Fever which took place on Fell's Point shortly after it appeared there; and these places being in that direction from which the winds generally prevailed, and the distance across the water being short, to suppose it possible, that *miasma* might be brought from there, to us, in sufficient quantity to account for the Fever here. But when this disease became so general and fatal on the Point, I was satisfied that the cause of it was generated nearer to us. And I am now *of the opinion that the chief cause of the Yellow Fever which raged here last season, originated from the wood in the wharves, and the other vegetable substances which had been suffered to remain in the water, during the heat and drought of the summer.*

That the water of our docks and around our shores, was possessed of deleterious matter, was evident, for many reasons. Some of these have already been stated. But I beg your indulgence while I add another fact, which shows the poisonous state of the water of our docks, and of the stagnant water along the shore, as low down as Colegate's Creek, (which is a short distance below the Lazaretto). *Large numbers of dead fish were to be seen floating about our wharves and thousands of them were washed on the shores of Canton and Colegate's Creek.* From this and all the other facts stated, it would seem very probable, that the water

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periods, for about fifty yards out from the wharves. He further observed, that the sea nettles were not to be seen near the wharves at these times, as usual.

(being now generally still) had received its poisonous properties from the wood before described, together with the numerous spars, rafts and old vessels, suffered to remain in it.

*This water being evaporated by the intense heat of the sun through the day, was at night condensed into fog,\* which carried with it through our streets, wherever it went, the cause of this Fever.*

In reply to the second question, I answer, that many nuisances may be pointed out in this part of the City, such as cellars, streets, and lots in which water is liable to stand and stagnate, until it is evaporated. These I consider to be general nuisances, and to have had their share in the production of disease as long as any moisture remained to be evaporated. But they would not have been sufficient to produce the diseases of themselves. They have aided or strengthened the principal cause. The landing of foul ballast, and the pumping out of bilge water at the wharves, may have added something to the then existing cause. These are practices which I consider very improper. They are highly offensive, and perhaps pernicious to the health of the citizens.

As respects your third question: I do not consider the "late Epidemic" or Yellow Fever to have been "contagious under any circumstances whatever." I have attended to many cases of this Fever in different parts of the country, where the patients had it in the worst form, after removing from the Point, and afforded the best opportunity of testing its character in this respect—Yet I can assure you, that in no instance was there the slightest reason to suppose it contagious.

I remain Sir,

With great respect,

Your obedient humble servant,

W. H. CLENDINEN.

\* A considerable number of respectable citizens, who removed from the Point to the adjacent hills, and on the Philadelphia road in view of the Point, agree in their statement, that during the sickness, in calm, clear weather, they had repeatedly seen, between day light and sunrise, a dark fog, (as they expressed it) hanging over the Point. This exactly corresponds with the fogs which are so frequently seen along the valleys up Harris' creek, and near Canton; and those which are so common in all low marshy countries. Wherever they can be traced, there also Bilious Fevers are seen to prevail.

BALTIMORE, 12 Month 15th, 1819.

*To the Mayor of the City of Baltimore,*

IN reply to the note which thou hast addressed to me, I shall be brief and general. My practical acquaintance with the late Epidemick was limited, because of the distance of my residence, from that portion of the City, in which the disease prevailed. It is a serious matter to give instruction in things which influence publick happiness, and I should not have made the attempt, voluntarily; but as thou hast desired me to join my views to those of my professional brethren, they are at thy service.

I. A number of persons came under my care during the last autumn, labouring under the ordinary Bilius Fever, which I consider the same in kind with Yellow Fever; but in only one case did those symptoms arise, which demand the appellation of Malignant. This case was that of a stout young negro, from Fell's Point, who was, I believe, generally healthy, and temperate. He recovered. I have no doubt that his disease originated from effluvia generated by vegetable putrefaction, for I will endeavour to show in answer to the third question, that Yellow Fever can arise from no other source.

II. Some of the most effectual measures, to prevent the future generation of the cause of Yellow Fever, are these:

1st, Where the water in docks is not much affected by the ebb and flow of tides, or where the wood is old and decayed, the sides of them should be removed, and stone walls built in their stead. I am not acquainted with the proportional expence of wood and stone walls to wharves; but I think that stone would be far more elegant and substantial. If it were universally substituted and the docks kept deep to prevent the sun's rays from acting upon the mud of the bottom, there would be little danger from wharves as sources of disease.

2d, During the hot weather, the streets, yards and gutters should be kept clean, and the latter daily washed. The washing might be performed with great facility, by suffering the publick hydrants, to be opened for a short period each day.

3d. All ponds and marshy places, should be filled up with clean earth. An Ordinance, if none exist at present, should be made, to prevent any cavity from being filled with filth. When cellars

have clay bottoms, and are occasionally covered with water, an efficacious remedy for the evil, is, to dig a well to the sand beneath, and fill it up with cinder, or some porous substance. When the water percolates to the sand, it generally escapes by subterraneous passages. If no effectual measure could be found to carry off the water, the cellar ought undoubtedly to be filled up.

4th, It has been the opinion of some that a canal from the Spring Garden to the Basin, by preventing the water in the latter from becoming stagnant, would be extremely beneficial to the City. This is rather problematical: but if the canal would be useful in other respects the subject is worthy of consideration.

5th, The last precautionary measure, which I shall recommend, relates to personal conduct. Every species of intemperance should be avoided; but there is one source of seduction from virtue, which seems to require the interposition of the law. I allude to Tippling Shops. Spirits, when taken into a system debilitated by the miasma which causes the Fever, rouse it into sudden and dangerous activity. Independently of the mischief which results from supplying the poor with this article, the shops keep them in a state of idleness. Their persons, their houses, their yards, are consequently filthy, and subject them to disease. To make laws for the extinction of these vile establishments, in which avarice and hypocrisy prey upon intemperance, would be to legislate both for soul and body. It would be no more improper to suppress them, than to prevent men from keeping shops for the encouragement of suicide by poison.

III. Changes of temperature, an epidemick constitution of the atmosphere, contagion, and animal and vegetable putrefaction are the only sources which have been supposed capable of causing Yellow Fever.

1st, Changes of temperature are no doubt exciting causes of this Fever, but that they cannot alone give rise to it was clearly proved by our late Epidemick. While the Point was subject to its worst ravages, the City was only slightly affected, and from circumstances of a local nature. Its proximity to the Point, made it liable to the same temperature, and the currents of air passed backward and forward.

2d, To the second supposed cause, the same remark may be applied. It would have existed in both situations. But the truth probably is, that it has only an imaginary existence.

3d, It is clear, beyond doubt, that the Fever had not a contagious character. The infected and the healthy portions of the

City were divided by lines; and whatever was the condition of the sick, they did not communicate their disorder when they were removed into the healthy district. The Hospital and Alms House, also, afford proofs of the validity of the non-contagious doctrine. During the whole season no instance of communication either to the nurses, physicians or visitors ever occurred, although the cases of disease were numerous and violent. I consulted with the attending physician of the Alms House on the only two cases which were brought to it. They were placed in the wards among the other poor, without any precaution and no infection took place although in one of them the disease was peculiarly malignant.

It is probable that the doctrine of contagion in this Fever, has kept its station, from the perversion which old doctrines give to the eyes of observers. It was once even received as an axiom, that the common Intermittent Fever, was contagious. A consequence of the attachment to old notions has been, that when a Fever has been proved not contagious, physicians have directly declared that it was not the genuine Yellow Fever. The following may possibly give some light to this subject. Dr. M'Lean, in his treatise on the Yellow Fever of St. Domingo, tells us that the difference between that Fever and the Epidemick which prevailed in Philadelphia in 1793, consisted in the contagious character of the latter. Dr. Rush had described it as being contagious, but a few years after he had the candour to tell the world of his deception.

The day of contagion in Yellow Fever has almost expired.—The last person in America who has supported the mischievous doctrine is obliged to resort to the hypothesis that it is contagious in an infected atmosphere only. Unfortunately for the author, this atmosphere must always be where the vegetable miasma exists. We may throw together hundreds of the sick in an healthy air, surely enough to infect it, and no Fever will be communicated.

4th, Effluvia from animal putrefaction is evidently innocent. Slaughter houses, privies, dissecting rooms and dead carcasses prove this to be the fact.

5th, That the Yellow Fever arises from the proceeds of vegetable putrefaction remains to be proved, but I will not trouble thee with the facts for that purpose. They have often been given and no one has ever disproved them.

Respectfully,

EZRA GILLINGHAM.

BALTIMORE, December 10th, 1819.

To EDWARD JOHNSON, Esq.

SIR,

HAVING received your Circular of the 1st inst. respecting the late Fever, it becomes my duty to "answer" the several "queries" which it contains.

1. The "first cases of Malignant Fever which occurred in my practice during the past summer," in this City, "were located" at the south east corner of Fell's Point. Several of them took place on board the shipping, which lay about the wharves of this place, among foreigners who had been healthy previous to their arrival. But most of them originated in Pitt street, and the lower end of Wolf street, among the apprentice boys and other youths. "The patients" were of orderly "habits."

In a short time after the disease first appeared, it seized on all classes of persons coming within certain limits of air.

I "ascribe their sickness" to vegetable miasma.

2. The "nuisances within my observation, which I conceive impaired the health of the City," consisted of an immense body of pine cord wood lying under the wharves immersed in stagnant water—of a considerable quantity of green timber similarly situated in the docks—of several old hulks and rotten arks, also lying in the water—of sundry beds of fermenting vegetables, such as chips, shavings, saw dust, &c. and of the stagnant and FOUL WATER in the docks and about the wharves.

I believe some share of the cause to have been generated from all these sources. But as I have already stated in my note of the 1st September, the wood under the wharves was, and still is, much the most formidable nuisance. This wood has existed as a source of miasma, for many years, and will be liable to generate it every hot summer, while it remains in its present state. The chips, shavings, and other less permanent nuisances, will of themselves cease, if they have not already ceased to emit the cause. They should not be suffered to accumulate, and all permanent nuisances that can, should be removed; as the only security against this disease for the future.

3. I do not "consider the late Fever to have been contagious, under any circumstances whatever." Being an indigenous Fever, and having been originated by miasma, I "consider" it to have been propagated by the same cause as far as it extended.

Yours respectfully,

A. CLENDINEN.

## MISCELLANEOUS MATTER.

*Edward Johnson, Esquire, Mayor of the City of Baltimore.*

SIR,

IN compliance with a request from your office, a meeting of the Medical Faculty was held this day at the Council Chamber, Dr. J. C. White called to the Chair and Dr. Samuel Baker appointed Secretary.—After full deliberation on detailed reports made by each member present of his knowledge and opinion of the present state of the health of the City, it was unanimously Resolved that

“A Committee be appointed and instructed to report to the Mayor conformably to the sense of this meeting that there is nothing unusual in the health of the City, and explain in detail the occurrences which have given rise to a contrary apprehension.”

The Committee were appointed accordingly, and in pursuance of those instructions beg leave to state.—That the reports and opinions collected at this meeting of the Faculty distinctly represent the general character of the prevailing diseases to be that of mildness: and their number and extent below an average even of healthy years. Four cases only of Fever marked with particular virulence are known to have occurred during the season, and in them no connexion could be traced in their origin, or relation, or any other peculiarity novel to medical observers. It may not generally be known, that, precisely such cases invariably occur to a very limited amount in the course of every summer, in all our large Cities, and only occasionally become the subject of public attention in consequence of some contingency, that may bring them to view. They appear to be solitary insulated casualties incidental to the Bilious Remittent: and although never satisfactorily accounted for, have been generally ascribed by the Faculty to some local virulence of cause, or to some specific defect of bodily condition in the subjects of them. It is certain that they so occur and are not propagated. The previous anxieties and inquiries excited by an alarm in a neighbouring City, have probably given an interest to the unusually small number of these analogous

cases produced here, which they would not otherwise have acquired. In that instance, the result seems to have proved their threatening appearances were fallacious, and that even the most malignant cases of Bilious Fever may be embodied to a considerable extent under very suspicious circumstances, and yet develop nothing, but some local poison, or specific predisposition, in the patient; much less then can there be found grounds for apprehension, where less than ordinary appearances of an Epidemic Fever, are attended with unusually favourable indications of health.

It is not pretended that medical observation can anticipate the occurrence of Epidemics: but if dread of them can be excited by existing circumstances at present, there is no summer season in which it might not be equally excited, since they are as invariable as the seasons which produce them.

*NOTE—The preceding part of this Report is designed to be used at the discretion of the Mayor and Council, and the subsequent part for their own consideration.*

The Committee strenuously and seriously recommend to the attention of the Mayor and Health Committee, the discontinuance of all operations in filling up the streets and docks with mud. They are well assured that a timely attention to the removal of all sorts of filth, the pumping out of water stagnant in cellars, the filling up of cavities in which lodges the refuse of vegetable and animal matters, the frequent cleaning of the streets and gutters, and in short the thorough removal of all things offensive to the sight or smell, will preserve the purity of our atmosphere, and entirely remove every material that might menace our safety or excite our fears. They would also recommend the covering of the matter recently removed from the bed of the Dock and Basin with a coat of solid material—and they would observe that this covering should be spread out with great regularity so as to leave as little inequality of surface as possible, that it be of the depth of at least a foot and if allowable in some degree beaten down so as to constitute a solid stratum, incapable of retaining or allowing the emission of offensive and destructive exhalations from the matter below.

JOHN OWEN,  
J. B. DAVIDGE,  
WILLIAM DONALDSON,  
SAMUEL K. JENNINGS.

*Baltimore, July 31st, 1819.*

## A REPORT.

AT a Meeting of the District Medical Society of Baltimore, on the evening of the 23d August, a Committee was appointed to enquire into the health of Fell's Point, and to examine the condition of any street, alley, lot, or wharf, on which any materials, capable of producing deleterious exhalations, might be found, whether on the Point, or other parts of the City. The Committee so appointed have performed the duty assigned them, and beg leave respectfully to report: that among whatever other causes, that seem to have produced the late considerable mortality, there are the following;—which are so obvious, as to excite our astonishment that the mortality has not been greater.

1. All that part of Wolf street, north of Pitt street, Fell's Point, south of the paved part of the street, is wholly composed of the refuse of work shops, by which it has been raised to a level with the other streets; all vegetable matter, now in the highest state of putrefaction, and varying in depth from one to six feet. These materials have been gradually accumulating for years, so that although a stratum next to the solid earth may have undergone decomposition; other superincumbent strata, exhibit every possible variation from perfect rottenness in the dry state.

In consequence of this circumstance, the whole mass is so porous and elastic, that in every instance when passed over by carts, drays, &c. the most dangerous exhalations are discharged; affording a constant and abundant source of infection.

By some legal restraint, this street has been diverted from its proper course, so that if it were carried through, as originally intended, the nuisance above described would be still left, though it would by that means, be placed on more elevated ground. It is the opinion of the Committee, that at a suitable time, all these materials should be removed, and that the street should be paved or raised to a level with the other streets, by materials incapable of putrefaction.

2. Much of that ground from Lancaster street, east of Wolf street, comprising a whole square, bounded by Wolf street is located with materials fitted for putrefaction, and is so situated, that it must unavoidably continue in its present offensive condition, till the decomposition of vegetable matter shall have been arrested by frost.

3. The lower part of Pitt street, which is not paved, is the receptacle of all the bad materials washed down from the higher

ground, and of itself now forms a nuisance capable of spreading disease.

4. That part of the wharf south of Fenby and Zane's shops, is formed of similar materials, and will require future attention.

5. Two Arks are rotting on John Price's wharf; these, together with other vegetable matters in a state of rottenness, ought to be reckoned among the causes that have contributed to the present condition of the neighbourhood.

6. The lower end of George street is not paved, and contains a bed of shavings and other matters in a state of decomposition.

7. Perhaps one of the worst and most offensive nuisances, consists of the timbers and spars, which have been sometimes kept in the water, at others exposed to the sun; to which we are obliged to add, the rotting logs composing many of the wharves themselves:—This cause has often been known of itself to produce malignant Fever: And in the present instance, we have no doubt, has contributed in no small degree, to give a deleterious quality to the air in that quarter.

8. Randall's wharf is now filling with materials, such as the ballast of the Ship United States, which is made up of sand, mingled with logs of wood, fragments of masts, &c. &c. in a rotten condition—Also a quantity of wood has a long time covered a considerable space of Randall's wood yard, which from its low situation, must have retained water during this season.

9. A mass of vegetable matters of great depth is now rotting on Tenant's wharf, and must be as offensive in its nature, as that of Wolf street.

10. Alisanna street being unimproved at its western extremity, is frequently overflowed by the tide; which in most instances leaves the earth partially covered with water. The ground thus inundated, is made up of the washings of the street, which under such circumstances is well calculated to contribute to the general contamination of the atmosphere of that quarter.

11. There is also a vacant lot, bounded by Bond street on the east, by German street on the north, and by Carolina street on the west:—And another piece of vacant ground, bounded by Wilke street on the north, lying on both sides of Harford Run, and extending to the Falls:—Likewise the vacant ground west of the Falls, which is made up of old and rotten arks, spars and plank: And still another piece of vacant ground on the north side of Bank

street, lying between that street and William Robinson's house, called Miltenberger's lot, as also the lot on the opposite side of Harford Run—Each of these spots of ground have upon them, small ponds of stagnant water, some of which were so poisonous, a few weeks since, as to kill the ducks and geese, which were accustomed to use them.

12. The Committee are fearful that the condition of the Basin itself may become stagnant, and finally be so impregnated with pernicious materials, as to affect the general health of the City—That the condition of the ground within the bend of the original shore, and the new *cross way* leading from Fell's Point, has had its influence in injuring the health of the present season, they feel very confident.

Not to be further tedious in the detail of evils, they must ask the liberty to add, that it is not to be expected, that all these nuisances and all these bad grounds, are to be removed and corrected at once, or in even this year, now so far advanced. The District Medical Society, and their Committee regret, that there is a disposition during the continuance of health, to forget calamity, and postpone the performance of labours so necessary for future preservation. And they think it their duty to strengthen the motives, which are at this moment, urging every good citizen to contribute his mite towards the preservation of the health and lives of himself and fellow men.

By way of conclusion, the Committee would respectfully suggest to the Mayor and City Council, the propriety of passing an Ordinance, prohibiting the practice, so often adopted by individuals, of burrying the dead by night, clandestinely.\*

This practice, has contributed more than any other single circumstance, to carry terror into the surrounding country: And independent of the exaggerated rumours to which it inevitably gives rise, it may too readily be perverted, to cover the worst of crimes and conceal them from detection and justice.

SAMUEL K. JENNINGS,  
NATHANIEL POTTER,  
SAMUEL B. MARTIN.

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\* It is believed the Committee were *misinformed* on this part of the subject at least!

## BALTIMORE HOSPITAL, Sept. 14, 1819.

To the Mayor and Board of Health, of the City of Baltimore.

REPORT of Malignant cases admitted into the Hospital during the last seven days ending Monday evening,

## TUESDAY September 7th,—8.

Mary Ireland, admitted	3d	day of disease—	recovered.
Susan Blackmore,	5th	ditto	ditto
John Jackson	2d	ditto	ditto
John Burns	3d	ditto	ditto
John Thompson	4th	ditto	
*William Blackmore	3d	ditto	died 4th.
*Samuel Burns	4th	ditto	died 6th.
Anthony Newton	3d	ditto	died 8th.

## THURSDAY September 9th—1.

Edward Colgan, admitted 1st day of disease—died 5th.

## FRIDAY September 10th—4.

Sylvester Walter, admitted	2d	day of disease—	cured.
Mary Van Ladin,	1st	ditto	
Martin Hewers	2d	ditto	died 5th.
John Handford	4th	ditto	died 6th.

## SATURDAY September 11th—2.

Daniel Patterson, admitted 4th day of disease.  
Frances Jones 1st ditto convalescing.

## SUNDAY September 12th—6.

Stephen Fulford, admitted	1st	day of disease.	
Mrs. Holt	2d	ditto	
Ann Small	3d	ditto	
*James Carden	3d	ditto	died same day.
*Fanny Cobbin	7th	ditto	died 8th day.
*Charles Reed	5th	ditto	died same day.

## MONDAY September 13th—1.

Eliza Easler, admitted 1st day of disease.

22 admitted, 5 of which were then in articulo mortis marked \*.

Deaths of total, 9.

I have been induced Gentlemen, to lay before you this statement, in consequence of several malicious persons, having circulated reports highly injurious to the character of this Institution : reports totally unfounded.

Many of the above cases were immediately from Fell's Point, where attended by Physicians until they thought\* them expiring.

That every attention is paid to them whilst here, I refer to several respectable physicians.

R. E. DORSEY,

*Residing Physician.*

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\* It will appear strange that Dr. Dorsey should attempt to pry into the thoughts of Physicians with a view to defend the Hospital. Wherever common sense abides such illiberal insinuations cannot fail to recoil on their author.

*One of the Physicians of Fell's Point.*

*Office of the Board of Health, September 20th, 1819.*

## PORT OF BALTIMORE, 25th Aug. 1819.

THE Brig Peter Arnold, Little, from Havana, arrived here yesterday at 11 A. M. with Sugar and ninety-nine Bags of Coffee. The Coffee appears on examination to be in good order.

On enquiry found one man who had a considerable degree of Fever. The Captain reports that he was taken with it on the day he sailed, has had neither vomiting or purging, except what was occasioned by the medicine he gave him.—On examining him to day, his fever is not increased, and he appears but little debilitated. I will send him to the Hospital this day—The vessel is this day ten days from Havana.

WILLIAM STEWART, *Health Officer.*

*The Mayor and Board of Health.*



The above is the only attempt which has been made to account for the late Epidemic by Importation; and as the Fever has been shown to have existed previous to the date of this arrival the case is plainly against contagionists in its result.

\_\_\_\_\_, *M. D.*

*Mayor's Office, 3d September.*

BALTIMORE, October 20th, 1819.

SIR,

IN compliance with your late request, I have the mortification to confess that I know no medicine that can effectually cure the Yellow Fever, all the resources afforded by *Materia Medica* have, I believe, been tried by the most skilful Physicians who, like others of an inferior merit, have very often been disappointed in this expectation. Temperance, a regular and rational mode of living, by invigorating the system, will help the action of medicines; and if under such a circumstance, a man is attacked with the prevailing Epidemic, all means may prove useful in the hands of a prudent and experienced physician.

I have the honour to be

Your most humble servant,

PETER CHATARD.

FELL'S POINT, BALTIMORE, 20th October, 1819.

To EDWARD JOHNSON, Esq.

SIR,

IN compliance with your request, I transmit to you a detail of the treatment of cases of the prevailing disease. By these cases you will be better enabled to form a correct idea of the advantages of prompt medical aid, than by my opinion on the subject.

On Friday the 17th of August, 1819, at 10 o'clock, A. M. I was called upon to administer medical aid to J. D. a man of twenty-one years of age, who reported, that a short time previous to my visit he had been seized with sensations of coldness, languor, lassitude, &c. which symptoms were soon succeeded by severe pains of the head and back—by oppression or weight about the stomach, and by thirst and heat. His pulse were now found frequent, but depressed—The skin exceeding hot and dry—The face pale—The eyes red and shining—The tongue somewhat foul. He was anxious and restless—and upon the whole, the case exhibited all the usual signs or first symptoms of the Yellow Fever, as it now prevails. This being apparent, the only safe treatment was esteemed to be the most prompt and decisive. Bleeding was therefore proposed as a first and preparatory mean to the operation of medicine, as well as to unfold the circulation. This measure, was consented to, with considerable hesitation, on the parts of the patient and his parents. But the operation was performed—Thirty ounces of blood were drawn at a bleeding. While the blood flowed *the pulse rose*, or, in other words, the circulation became so far disencumbered as to play with more freedom. The redness of the eyes passed off. I then administered three calomel pills, of twelve grains each, as a purgative—directed a warm tea of the eupatorium perfoliatum, (or *bone set*,) to be drunk freely. The feet to be bathed in warm water, and some other warm external means, calculated to excite perspiration, to be applied, and left the patient.

On returning at 5 o'clock, P. M. I found that the patient's medicines had not operated—neither had perspiration been excited. The symptoms of disease had now increased considerably in violence.

Six grains of tartar were now dissolved in a cup of *bone set* tea and administered—The tea was given in large quantities alone, by way of working off the emetic.

At 9 o'clock, I visited him again. This medicine had not operated. It now became my duty to prescribe medicine for him during the night. Taking into view the desperate nature of the case, and recollecting the obstinate constipation of the bowels, in similar cases, I prescribed, 1st, three ounces of salts and ten grains of tartar emetic, to be dissolved in warm water, and one sixth of the solution to be given every hour until the bowels were well evacuated. 2d, Thirty-six grains of calomel, to be given in doses of six grains each, every four hours after the salts &c. operated. But if it so happened that no evacuation could be procured, otherwise the whole of the calomel to be given at once. 3d, The *bone set tea* to be continued. 4th, The warm bath and injections to be used.

8th, At 10 o'clock, A. M. visited, and was informed, that, he had taken all the medicine and submitted to all the means directed, on the preceding evening—that he *had not vomited any*—that his bowels had been evacuated freely a short time previous to this visit—that the stools were black, and that the Fever had grown higher and raged more vehemently all night. The pulse were now *one hundred and ten*, bold, strong, and full; the face florid, the eyes red and glossy, the tongue and skin dry. In short, most of the symptoms appeared greatly aggravated; yet the patient on being asked how he felt? said, “since the operation of the medicine I feel a little better.”

Four doses of *pulv. antim.* each eight grains, were now prescribed—one dose to be given every four hours. The tea to be continued.

At 6 o'clock, P. M. He seemed better; the bowels had been well evacuated, the passages still black. He now complained of sick stomach. His skin felt soft but not moist—His Fever had abated.

The black snake root tea was now added to the bone set tea, and external means again directed for opening the skin and exciting perspiration. A saline mixture was also prescribed. This was composed of *vol. sal. ammon.* and *sal. sodæ* dissolved in water and some *spirit. nitri. dulc.* added. This mixture to be taken in vegetable acid, a table spoonful at a dose, while effervescing.

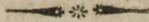
19th, At 10 o'clock, A. M. He was much better, he had rested well, and perspired freely during the night, yet the stools were as dark as usual.

Six doses of *calomel* and *pulv. antim.* of each four grains, were now prescribed, one to be taken every six hours. The other medicines to be continued.

20th, I found that he had discharged freely of black matter from the bowels during the last night. He now felt himself much better. The pulse indicated weakness. The snake root tea was continued, and chicken water ordered for nourishment.

21st, He was convalescing and anxious to eat—This he was cautioned against and advised to drink soup, gruel, sago and porter sangoree.

23d, This patient was well. In six days subsequently he resumed his usual avocation.



Monday 23d August. 1819, I was sent for at 10 o'clock, A. M. and visited J. B. an apprentice boy, of fourteen years of age, who had worked on the south east corner of Fell's Point. He had been seized with a chill, about an hour previous to my visit, and was still shivering—complained of thirst, pain in the head and back—seemed anxious and restless, and threw himself from side to side on the bed. He was ordered to lie still—to cover himself up warm, to drink herb tea, and to have his feet bathed in warm water. At the same time I prescribed twenty grains of calomel as a purgative, and retired from the patient.

At 2 o'clock, P. M. Visited again, and found that his medicine had not operated, and that he laboured under a considerable degree of Fever. I bound up his arm and drew from it thirty ounces of blood. [He fainted.] I now administered twenty grains more of calomel—directed the herb tea to be continued, and left the patient.

Six o'clock, P. M. Visited him. His medicine had not operated, his Fever had increased, his eyes were now red, his tongue dry, his skin hot; he complained of pain, breathed with labour, sighed often, &c. I administered two ounces of glaubers salts, and retired.

At 10 o'clock, same evening, this afflicted boy's medicine had purged him copiously. His evacuations were dark, and (as he said) scalded him when discharging. He felt better—seemed calm, and inclined to sleep. The Fever had abated—the skin was moist and less hot.

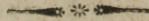
24th, At 10 A. M. Found him clear of Fever, and most other symptoms of disease. On asking him how he felt, he *smiled and said he was well.* His medicines had continued to operate.

The evacuations had now changed and become natural in their colour. His tongue was moist—his gums swelled, red, and tender. He wanted to eat.

He was directed to keep his bed and encourage perspiration, by drinking largely of luke warm elder flower tea, with lemon acid and sugar in it, and to take a teaspoonful of the carbonate of magnesia, every four hours. To eat nothing: but to drink chicken water for nourishment.

26th, I visited this patient and found him convalescing rapidly. Directed the same means to be continued.

27th, I found him well, and discharged him from my care.



Friday, 27th August, 1819, Having been sent for I visited D. M. a young man of seventeen years of age. I found that he had been seized while at work, with sensations of coldness, which were soon succeeded by a general soreness of the flesh, and by pains in the head and back. His face was now flushed and swollen—His eyes red and shining—his pulse at the wrist scarcely perceptible—his skin hot and dry. *The heart was now throbbing so as to be perceived across the room.* The action of the carotid arteries, and indeed of all the large arteries was astonishingly great. Being aware that the want of pulse at the wrist was owing to suffocated and excessive excitement, and not to absence of Fever, (in other words that his pulse were depressed) I tied up his arm, with a view of giving more room for action, by abstracting blood, and lessening the volume of it in the system. The vein would not rise nor fill. It was opened however, and by working and rubbing the hand and arm I succeeded in drawing only six ounces of blood. I now had the patient rubbed all over in warm vinegar—His feet bathed in warm water, and bottles of warm water put about him in bed. Administered to him six grains of tartar emetic and twenty of calomel, in syrup, at once, and directed warm water to be drank when the medicine began to vomit. I retired.

In two hours I returned, and found that my patient had not vomited—that his pulse were much more distinct at the wrist—that the skin was still hot and dry. I now tied up the arm and drew away thirty ounces of blood, and administered at a dose twenty grains of calomel and ten of tartar emetic, to be worked off in the same way the first dose was to have been worked off. I left him.

At 10 P. M. I visited him again. On entering his room I was met by his mother, who exclaimed, "Oh! Doctor you have killed my son!" "He has been puking for six hours, and his medicine has turned down upon his bowels and purged him almost to death." "There he lies as pale and as white as sugar, and not able to speak or move." I approached the bed, and found him in the act of vomiting and unable to raise his head off his pillow. I felt his pulse and found they were very feeble but regular. His skin was dry; he had vomited a great quantity of bile of a dark color, during the last four hours of his vomiting. His alvine evacuations had been copious and of a deep black color.

I prescribed the usual saline mixture; to be taken in lemon acid. Balm tea to be used during the night for drink, admonished his mother to be quiet and attend to her son; that he was in a good way, notwithstanding all her apprehensions.

Saturday 28th, I visited this young man at 8 o'clock in the morning. His mother now reported that "he seemed a great deal better," but "that he stole a march on her last night, a few hours after I left him, and got to a bucket of cold water and drank 'till he was satisfied, and then went to bed and covered himself up warm, and got into so great a sweat that it has run through the bed; and now his Fever and pain have left him, and he wants to eat, and seems quite well!"

It appeared that the attention of his affectionate mother was called to some more of the family who were sick; that the cooling saline draught had been omitted, and that the patient's great thirst had induced him to drink water in large quantities. But this water was far from being cold, having been standing for a part of the day and the first part of the night in a room, where there was an accumulation of heat above the extreme heat of the weather, it was in fact warm water—much warmer than I sometimes recommended my patients in this Fever.

His symptoms had now in reality become favourable. The only unfavourable symptom present was that of the strong disposition to eat—If his appetite had been indulged in eating, as it had been in drinking, the scene would soon have changed. The redness of the eyes had now passed off—the tongue was more moist, but foul—The pulse beat regular and soft.

I now prescribed the *spiritus minderevi*, with sweet spirits of nitre added to it; black snake root tea for drink; admonished the patient to take no nourishment except a little weak chicken water without seasoning, and retired.

At 10 o'clock in the evening I visited him again, and found that he had not had an exacerbation of Fever: his pulse were less than one hundred, his countenance was good, his skin was soft, cool, and moist. On enquiring how he felt, he answered that he was "easy and comfortable." I directed the same medicine and drink to be continued.

29th, I visited him at 10 o'clock, A. M. His bowels were now constipated, but all his symptoms of disease had greatly lessened in violence.

I directed him to take two ounces of salts, and drink chicken water and thin gruel.

At 6 P. M. This young man dressed himself, deserted his abode and road out to the country in a coach three miles—In going out he called at my office: I furnished him with some magnesia, and directed him to keep his bowels regular, by taking small and repeated doses of it—to nurse himself, and use no solid food for several days.

Friday 3d September, the father of this patient reported that he had recovered.



Fell's Point, 6th September, I was sent for to visit and prescribe for Mrs. C——, a poor widow, who had retired from her home on the Point, with several small children, and rented a house at the upper end of the town, but finding her means likely to be exhausted, she very soon returned to the Point again, (as she said) to be useful to the afflicted, while she obtained the means of subsisting her children by her industry and economy, which she could not do in the strange place she had left in town. At the time I heard this tale it would have been useless for me to urge upon this woman, on her own account, the advantages which the encampment held out, for she was already attacked; but it became my duty to urge the removal of her children to this place, with a view to save their lives if possible. Accordingly I proposed having them sent there without delay. To this she objected in strong terms, saying she had rather bury them. Nor could I avail myself of any language that would induce her to accept of this charitable exile, so strong were her prejudices against it.

By the report of this unfortunate and misguided woman, I learned respecting her disease, that she was seized about three hours previous to my visit, with a cold chill, pains in the back and

head, but a much more exheriating pain in the stomach, which she described as resembling an attack of the bilious cholera, with which she had been afflicted in June. She had great nausea at the stomach, and frequently retched to vomit but did not raise any thing. Her eyes were red and shining, her face swollen and of a dark red colour approaching to purple, her skin was hot and dry about the body and head, but on the extremities it was cool and dry. The action of the heart and great arteries was excessive. They could be seen to throb by the bystanders. At the wrist the pulse were depressed and indistinct. The breathing was laborious—the thirst unquenchable. The patient complained greatly of an insupportable weight on the breast. She sighed deep and frequently. In short the whole rounds of the first symptoms of this case shewed the livery of the prevailing fever, in its most aggravated form.

I prescribed for her after the following manner, viz. first, bleeding. To this she objected and could not be prevailed on to submit to it. Second, an emetic composed of tartarised antimony and ipecacuanha—this I administered, and ordered it to be worked off with camomile tea. Third, three calomel pills, each ten grains, one to be taken as soon as the emetic ceased operating, and the remaining two to be taken at intervals of four hours. The pills to be worked off with barley water, and retired.

7th, On visiting this patient I found her situation not much changed. The emetic had operated freely, but no bile had been discharged, the calomel had not operated sufficiently. The pulse were now distinct at the wrist. They were frequent and soft. The tongue was white on the edges, and had a brown strake in the centre. I prescribed three ounces of salts and repeated the calomel. The salts to be taken at once, and the calomel as before. If the bowels were not evacuated freely in four hours, purgative glisters to be used and repeated frequently.

8th, At 10 o'clock, A. M. Found the pulse soft, frequent and intermitting—The skin dry and hot—The eyes dull and heavy—The countenance bad, and the tongue dry and brown. On enquiring of the patient how she felt, she replied, “that she felt much better, the medicine had operated largely, had relieved her of an immense load of black bile, and had carried off most of her pain. She was thirsty, but much more comfortable than usual.” On turning round I now beheld (for the first time,) an old lady advancing towards me, and addressing me in broken English, saying, “she had come last night to nurse this poor woman, and had been up with her all night.” She assured me that the patient had, had twelve large evacuations in the night, of a substance resembl-

ing black mud; that she had passed a bad night, but had slept sound from day light to this time. While I was conversing with this nurse the patient fell a sleep.

I prescribed six powders of calomel, each five grains, one to be taken every six hours. And a solution of vol. sal. ammon. and sal. sadæ, with a little spirits of nitre added, (to be taken in vegetable acid, in an effervescing state, every two hours.) Elder flower tea to be used for drink. I also directed a tub of warm water to be set in the bed, the patient to lie on the back, to draw up the feet and put them in the warm water while she thus lay. The tub and patient to be well covered over with the bed clothes—warm water to be added frequently, and the feet to be kept in it until perspiration was excited. The tub of warm water to be removed then and bottles of warm water to be placed in the bed all around the patient—a bed pan to be used if she had occasion to stool. I now left the patient.

In the evening I returned and found the skin cool and moist—the pulse improved—the patient sleeping.

I directed the same means to be used during the night, in such a way as to keep up perspiration, and retired.

9th, At 10 o'clock, A. M. She was entirely clear of Fever—the pulse ninety, regular, and firm. She now began to look yellow, and complained of nausea at the stomach and said, "*the acid which she was taking scalded her throat*"—The tongue was moist and of a deep brown colour.

On laying the hand on the stomach, the patient complained of great soreness. I now discontinued the medicines prescribed on the preceeding day, and prescribed a decoction of senna and salts—A wine glass full to be taken every hour until the bowels were well evacuated. (The bed pan to be used.) A large blistering plaster to be laid over the stomach—Carrot tea to be drank. I retired.

At 10 o'clock, P. M. returned. The purgative had acted well—The stools were black—The patient felt the action of the blistering plaster and was less distressed in the stomach—The pulse as before.

I now prescribed the carbonate of magnesia, to be taken in small doses through the night—the drink to be continued, and left her for the night in charge of the good old nurse.

10th, At 10 o'clock, A. M. I visited her. She was now excessively sick at the stomach, retching frequently, and occasion-

ally raising a small lump of dark matter resembling clots of blood. On asking her how she was, she said, that all her misery had left her except the sick stomach and sore throat. The throat she insisted must be "scalded with the hot sour steam which rose into it from the stomach." The countenance was now bad—the eyes dim and yellow—the skin dry and of a deep yellow—The tongue had a dark brown and dry appearance—The respiration was laborious—the pulse were one hundred, regular and strong. There was more firmness in them than usual at this critical period of disease.

The patient was anxious and restless. She expected to die and felt great concern for "*her poor children.*"

I directed the magnesia to be given in new milk, and the milk to be drank in large quantities. I also directed a large bag of boiled Irish potatoes to be laid under the back of the patient as warm as she could bear them—the feet to be bathed as before, bottles of warm water to be laid about her, and retired.

In four hours I returned again and found that my patient had thrown up about a pint of the usual coffee ground like black vomit. Her pulse were somewhat sunk but still better than usual in such cases. I now prescribed lime water. And directed a wine glass full of it to be taken in the same quantity of new milk, every hour. The magnesia; and the new milk, for drink, to be continued.

At 9 P. M. I found her still vomiting black matter. The nurse had saved (and showed me) about a quart of it. The pulse were now sunk considerably, and the fatal scene to all appearance speedily approaching. The head hot, the extremities cold.

The skin had but recently become moist although the warm applications had been faithfully applied.

I directed the same means to be continued and in addition thereto ordered mustard and vinegar to be applied to the extremities and a plaster of the same articles to be laid over the stomach, on the place where the flies had drawn blisters. This to be continued on her four hours. To be dressed as usual.

11th, She was better. The pulse were now much improved. The black vomit had continued nearly all night, but had now entirely subsided.

The magnesia had operated three times—the stools were black. I directed the blister to be dressed with cabbage leaves—The lime

water and the milk to be continued. Carrot tea to be added to the milk for drink.

At 10 P. M. She vomited black again. The pulse were now one hundred and twenty, and feeble—The skin hot and dry. The patient complained of pain in the bowels. In addition to the means above named I now added one and an half ounces of castor oil. The perspiration to be renewed if possible by warm applications and drink.

12th, At 8 o'clock, A. M. She seemed much better. The vomiting of black matter had ceased again (I was informed) at 12 o'clock at night, and had not since returned. (The stomach was still irritable.) The castor oil had operated four times—the two first evacuations were of a dark colour, the last of a natural appearance. The tongue was now nearly clean—the skin moist—the pulse regular and one hundred and ten per minute. The patient had great thirst, the lime water, new milk and carrot tea were continued.

At 10 P. M. This patient was still better.

The same means were continued with as great regularity as possible.

13th, 10 o'clock, A. M. She was not so well; the eyes and skin were uncommonly yellow. The patient very weak. She sighed often—but was not sick at the stomach. Her throat was sorer than it had been for the two preceding days. The tongue clear—the pulse one hundred and twenty and feeble—skin dry—the evacuations natural. I now discontinued the lime water, and directed black snake root tea and a little chicken water to be used, and if the stomach became sick, a tea spoonful of prepared chalk to be taken in white sugar and water.

At 8 P. M. The symptoms in this case were not worse than in the morning. But the snake root tea had been rejected by the stomach, and some black flakes had been seen floating in the fluid which had been vomited.

I discontinued the snake root tea and chicken water, and resumed the lime water,\* new milk and carrot tea again.

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\*This patient took in all eight pounds of lime water, a great share of which was vomited up. But its effects were good even when rejected by the stomach.

14th, The case was still doubtful, yet the symptoms had moderated somewhat since last night. The skin was moist. The stomach settled—The stools of a natural appearance. The patient now complained of pain in the back. The urine was black and voided with great pain. The breath had a cadaverous smell. The eyes and skin not changed in color. The countenance was more cheerful and bright.

I now directed a tea spoonful of spirits of nitre, to be given in her drink, every four hours. An ounce of castor oil to be given at once, the stomach to be tried with a little weak wine whey. The lime water to be continued.

15th, I was unable to visit this patient myself, but my medical friend attended her, and he reported, that “she continued better,” “The skin moist, pulse regular, tongue clear, *eyes and skin very yellow.*” She was now directed “to take light nourishment frequently.”

16th, She had not vomitted since I last visited her. Her urine had now changed from a black to a red color. The bowels were slow, the skin again dry—The tongue foul. The eyes had grown more yellow. She sighed often. Had called for nourishment frequently during the night and this morning, and very improperly ate a peach. She retained nothing on her stomach. On examining the right side and pressing it with the hand she complained of great pain—The side felt hard and seemed enlarged about the region of the liver.

I prescribed cathartic pills composed of rhubarb and castile soap—to be taken at intervals of six hours, in sufficient quantities, to operate moderately. Fluid nourishment to be taken freely.

17, This case had not changed materially. The bile, &c. continued.

18, More doubtful—The pulse one hundred and regular—pills to be continued.

19th, The skin was still more yellow, the pulse regular, ninety per minute, tongue moist but foul. The pills had operated—uterine hæmorrhage, and hiccup had now come on. The pills, &c. were continued.

20th, The hiccup had ceased—the patient had drank chicken water with advantage but could retain nothing solid in the stomach since yesterday—the yellowness of the skin still very great—The soreness in the side not lessened. The hæmorrhage was now more

profuse. I laid a large blister on the right side and continued the same pills.

21st, There was no material change to be discovered since the preceding day. The blister had drawn well. Pills continued.

22d, This case did not seem much improved since my last visit. The patient was excessively weak, and troubled with hiccup occasionally, and still unable to take any nourishment of a solid nature. She objected to taking any more pills. I now prescribed the same medicine with the addition of *aloes*, to be taken in a fluid state, and she agreed to take it in that way.

23d, The skin was less yellow, and the patient's pulse better, but the stomach had rejected every thing that had been tried. She was now *quite weak*.

I discontinued the medicine, and directed light fluid nourishment.

24th, She was again to all appearances worse, spoke of dying. She showed signs of hysteria, however I now got her to promise to take the saponaceous pills again and in preparing them added some of the gum fetida.

26th, I was informed she had been labouring under hysteria all the preceding night. She took no nourishment, nor would she take her pills. I gave her a portion of the tincture of gum fetida, and directed it to be repeated occasionally until relieved of fits.

27th, The hysteric fits still continued—The stomach retained nothing. The uterine hæmorrhage had nearly subsided. The skin had become less yellow. Tincture of gum fetida continued.

28th, She had a good pulse, her skin become less yellow, the hiccup and hysteric symptoms had subsided. The countenance had improved. But the stomach was still weak and so irritable that fluids could not be retained on it for a moment. I administered a *scruple of ipecacuanha as an emetic*, to be worked off with camomile tea and left the patient in the care of her children, for the good old nurse had gone to bed sick, and *the whole neighbourhood was depopulated*.

29th, The emetic had operated well, a large quantity of yellow bile had been thrown up. The bowels had been evacuated well, the stools had a black colour. On enquiring of the patient how she felt, she replied that she was "so weak that she could not turn in bed, but her stomach was greatly relieved by the puke which

she had taken yesterday, and she felt like recovering." Her countenance was now evidently more natural than it had been since the attack. But I found the stomach to be very irritable. I directed her to drink new milk and barley water, and to take nothing stronger until I visited her again.

30th, I found her propped up in bed and every thing going on well.

October 1st, she was still doing well, I allowed her a little chocolate at her own request.

2d, She was still improving, she had been sitting up on a chair in the morning for the first time since the 6th ult.

3d, The patient was able to walk across the room, and begged for something to eat; I allowed her light nourishment.

4th. She was not so well, the stomach had rejected every article of diet that she had tried; she was low spirited and costive, her skin much less yellow. I ordered the pills composed of aloes, soap and fetida, to be resumed.

5th. She was not so well. Had not been able to rise out of bed since my last visit. The pills to be continued.

6th, She was less yellow but complained of great weakness and nausea at the stomach—no Fever, pulse 80, regular, but feeble.

7th. I found that the pills had operated freely. The stools were dark in the beginning of the operation but had become natural. The patient was much better.

8th, She was still better.

9th, Convalescing.

10th, Able to walk about the room again, but unable to eat any thing. So irritable was the stomach.

11th, I advised her to take lime water and sweet oil twice a day until the stomach regained its strength.

20th, I found her engaged at work. The stomach much stronger—her general strength, improving.

The yellowness of skin had now entirely subsided and the patient had the appearance of good health; I discharged her cured.

“—————, *M D.*”

## A CASE OF YELLOW FEVER,

*Taken from Memoranda written at the Bed side of the Patient, from hour to hour as it progressed, to its fatal termination.*

Dr. M. D. C. aged 23 years, a young man of good constitution—moral habits—intelligent mind, industrious, persevering, courageous, a native of the north of Ireland, but lately from the West Indies, had been for three weeks acting on the Point as an assistant in the Drs. C.'s office—was attacked, with the Fever prevailing there, in the night, between the 7th and 8th of September 1819. He first complained of pain in his stomach and bowels, which was soon after followed by a high fever with great pain in his head and back.

*Wednesday six o'clock A. M.* visited by Dr. C. who found his pulse quick (120) full and tense—skin dry and hot—eyes red and inflamed—pain in his head very great.

Bleeding was proposed to him: he refused to submit to the operation alledging that his illness was not the prevailing Fever but an attack of cholick. Half a dram of calomel was administered and he was advised to continue for his drink a solution of cream of tartar and molasses, of which he had drank freely during the night.

Twelve o'clock visited by Dr. C. and three other physicians. This medicine had not operated—the symptoms of disease had increased in violence.

The patient now consented to be bled. Sixteen ounces of blood were taken; but its flow was with less force than usual—the fullness of the veins did not appear to correspond with the strong arterial action then present. After the bleeding another half a dram of calomel was administered, and ordered to be repeated in four hours (if this and the first did not operate) acid and diluted drink directed to be used freely.

*Four o'clock P. M.*—One dram of calomel has been taken without producing any other effect than a little nausea at his stomach. No abatement but rather an increase of unfavorable symptoms. Twenty grains of calomel were now given, and it having been decided as most adviseable to remove him out of the infected atmosphere where he lay—Three offers were made to him, and it was left to himself to choose, whether he would enter the general

Hospital, which was open for persons affected with Yellow Fever—or accept of an invitation and take a room in a private house, situated in a *pleasant* part of the City: or otherwise allow himself to be removed into the country, eight miles distant. He preferred, and was highly gratified with this last offer, particularly as he was informed he could have the privilege of a large barn to lay in, where he could be soothed with a free and cool current of pure air, and be provided with every necessary attendance. He got up and dressed himself immediately, and as soon as a carriage could be provided, filled up with hay, and a matress fixed in it, he was removed to the barn, where he arrived about seven o'clock, and felt himself much refreshed, and in no way fatigued by his journey, of eight miles, over a roughly paved turnpike road.

*Eight o'clock P. M.* Visited by Drs. A. C. and J. S. who found that his medicine had not operated, and that there was no abatement of his disease, pulse 115—Full and tense—Skin very dry and burning-hot—Head-ach very great—Eyes brilliant and red—Complains of the state of his stomach and of nausea from the calomel—restless, anxious, often turning over in haste from side to side in his bed; thirsty, the most free draughts of solution of cream tartar and cool water afford no relief, tongue whitish and furred, but not foul; mind composed, not delirious, judgment sound and deliberate; thinks himself worse, than he was in either of two attacks of Yellow Fever, which he had already experienced this summer in the West Indies; one on shore and another on board of a ship, where he attributed his cure chiefly to the affusion of cold water, which he had thrown over him repeatedly by buckets full, and which he says quickly assuaged; and he believes controled and cured his Fever—When spoken to he appears to be rather in good spirits, and although he considers himself in great danger, he is by no means disheartened—hopes to recover again; and is willing and ready to make every exertion in his power to overcome and subdue his disease. Opened a vein in each arm, but could not obtain more than six or eight ounces of blood—administered twenty grains more of calomel, and directed six grains of tartar emetic and two ounces of glauber salts to be dissolved in six cups full of warm water, one cup full of which was to be taken every two hours until his stomach and bowels should be freely evacuated—This medicine was very disagreeable to him—the first portion occasioned some vomiting, and he threw up a quantity of greenish colored bilious matter, which he informed had no other taste than the mixture which he had just swallowed.

*Twelve P. M.* Repeated the emetic mixture and salts—stomach more retentive—had taken freely of two milk wheys, vinegar whey, and solution of cream tartar—Ordered one dram of calcined mag-

nesia in a tumbler of water, and allowed the cool and diluent drink to be continued.

*Thursday 9th September, Six A. M.* Soon after taking the magnesia, his medicine began to operate, and he has continued to pass every half hour, freely and without pain, very copious discharges of dark colored and extremely fetid bilious matter from the bowels—during intervals, between these passages he has generally slept composed—He is very sensible of the operation of his medicine (to the calls of which he is always attentive) and rises quickly out of his bed without any aid. For the last six hours there appears to be some abatement of his Fever, but not sufficient to justify its being considered a distinct remission of his disease.

*Twelve A. M.* During the whole of this morning his medicine has continued to act freely on his bowels, without producing any change whatever in the appearance of his passages, which are yet as *black, copious and offensive* as during the night.

His countenance is more dull and heavy, his eyes drowsy, red and glaring—pulse yet full but slower, not exceeding one hundred. He expresses his astonishment at the great quantity of offensive matter which he has discharged from his bowels, without appearance of its decrease. Gave a small dose of calomel, and directed a free continuance of the whey, and chicken water which has been using for a few days past. He is very anxious to try the affusion of cold water.

*Four P. M.* The application of cold water thrown over him appears to have a salutary and agreeable effect—But the coolness of his skin which it produces, is of very short duration. He gets out of bed and has buckets full of very cold water poured over him, every fifteen or twenty minutes. The evacuations from his bowels continue as usual—frequent, copious and fetid—pulse full and strong, one hundred and ten, heat of his forehead very great, eyes continued inflamed, and his head aches very violently—tongue more foul, occasionally is found dry and brown in the centre, but whitish, moist and furred on the edges—does not complain of any pain in his back or limbs, drinks freely and with a retentive stomach.

*Seven P. M.* Fever encreasing—more restless, more inclined to stupor—pulse more full and tense, skin very hot and dry. A vein was opened, but not more than two ounces of blood could be drawn. The arteries appear full, but the veins will not rise, nor bleed when opened except by drops.

It being now evident that his disease will terminate fatally if some immediate change cannot be made in its course—it was de-

terminated to make, if possible, some immediate and forceable impression on the stomach and skin, for which purpose six grains of tartar emetic were given to him, mixed in some water.

*Eight P. M.* Having slept ever since taking the above dose, he was roused up and made drink in succession four tumblers full of warm water, before any emetic effect could be produced—by using his finger to irritate the palate, he now excited some nausea, and threw up the water which he had just swallowed—but it was without any foreign discoloration by bilious or other matters.

*Ten P. M.* The emetic tartar having failed to produce the effect desired, twenty grains of ipecacuhana were given.

*Twelve P. M.* Some slight efforts to vomit have been occasioned by the ipecacuanha, and there appears to be some abatement of Fever, but from the general aspect of the case there is very little hope remaining that any favourable change can be produced by medicine.

*Friday, 10th September, Six A. M.* Had several copious dark stools in the night, which were less fetid—pulse eighty, with diminished force, eyes still red, head ache continues, complains of nausea at his stomach, his strength much exhausted, *but he rises without permitting any one to assist him*, when he has occasion for the stool—gave a cup full of green mint tea, which he took, anxiously expecting, that it would relieve his stomach, but he soon complained of his disappointment, and refused to take it again, alledging that its “volatile” properties affected his head. Gave him in lieu of the mint tea a cup full of an infusion of the *eupatorium perfoliatum*, which produced vomiting and gave him relief, but no bile was thrown up. His thirst being great an infusion of the red berries of the *rhus coriaria* was given him, and found to be very pleasant and suitable acid beverage. He drank of it several times, and was pleased with the change, but it neither quenched his thirst nor afforded any permanent relief.

*Nine A. M.* Every unfavorable symptom of his disease continuing. Blisters were directed to be applied largely to his stomach, and on the back of his neck, and to his legs and arms. Diluting drink to be continued, and to use spiritus miudereri, saline mixture, &c. &c.

At his own request the following was prepared for him, viz. sal. soda. and vol. sal. ammon. each one drachm, dissolved in six ounces of water; add one drachm of vin. antim. and two of spirit. nit. dulc. a table spoonful to be given to him in the same quantity of lime juice every hour or two hours—of this medicine he took fre-

quently; but objected to the spirit. mindereri on account of the sulphuric acid with which he supposed, from its peculiar taste, the vinegar had been adulterated.

*Nine P. M.* The blisters have occasioned excessive pain, but do not draw. In some respects he is better than he was last evening: a considerable abatement of many of his most distressing symptoms having taken place—There has been no perspiration observed since the commencement of his disease, if we except only an *oily exudation* on his face, particularly on the sides of his nose, this was several times observed, and when wiped off with the finger left a greasy mark on the skin. There are no spots or blotches, bubo's, pustules or sores, on any part of his body. He is fully convinced of his approaching fate—regrets his unhappy absence from parents, whose remembrance occasions the filial tear to flow over his cheek. But is grateful for the personal attentions of the strangers into whose hands he has fallen pennyless and unknown.

*Saturday 11th September, 1819.* A new paroxysm of Fever came on about the middle of the night, but the powers of nature had been previously so much exhausted that he resigned himself in confidence to the will of his Heavenly Father, and without any further struggle expired at 7 A. M. Soon after death, *his body became very yellow*—and on the same evening it was committed to the earth, in the Reverend Dr. Glendy's burial ground, in this City. Thus has terminated the human existence of a young stranger who, without fear, but with christian zeal, volunteered his services under the most dangerous circumstances to aid the poor of Fell's Point, while suffering under the ravages of Yellow Fever—His disease was not communicated to any of his attendants notwithstanding they were constantly by his bed side, making every exertion in their power however ineffectual to render him that assistance which he so highly merited, and which the nature of his case required.

DAILY REPORTS,  
 PROCEEDINGS OF THE  
 BOARD OF HEALTH, &c.

AUGUST 12th, 1819.

Commissioners met. Present, Messrs. Hynson, Owens, Berry.

*Resolved*, That Joseph Legard and Noah Fowler be appointed to collect all correct information, from Physicians, and others, that may assist the Board of Health in forming a correct opinion with respect to the health of the City.

*Health Office, Baltimore, Aug. 13th, 1819.*

To Doctor \_\_\_\_\_,

The Public anxiety appearing to require a Daily Report of the Health of the City, and the attention of the Faculty hitherto paid to the communications of this Board, induce them respectfully to request an answer to the following questions, and such other information as may appear to you appropriate :

1. Have you any cases of Fever commenced within the last twenty-four hours, and likely to prove dangerous ?
2. Any Deaths ?
3. Any Dangerous Fever, which commenced previous to the time above mentioned ?

*By Order,*

P. REIGART, *Secretary.*

*August 14th*, Commissioners met: Present, Messrs. Hynson, Owens and Berry.

Joseph Legard reports nothing new, from the Physicians, of importance, for the last twenty-four hours.

Noah Fowler reports several cases, upon the authority of Drs. Murphy and Martin, of Fell's Point!!!

*August 16th*, Joseph Legard reports nothing more than some few cases of Bilious.

Noah Fowler reports, on the authority of Doctors [Reese!] Murphy and Martin, several new cases of Malignant Fever!

August 17th, Joseph Legard makes the following report:—Dr. Jennings, 1 new case, William Conekey, malignant character. Dr. H. Bond, 1 new case, son of Capt. Philips, malignant character.

August 18th, Reports from thirty Physicians west of the Falls, only one new case of any note.

Fell's Point—Drs. Clendinen, 3 new cases in Pitt street. Dr. Martin, 1 new case Remittant, corner of Lancaster and Market streets.

August 19th, West of the Falls, only two new cases of a Bili-ous nature.

Drs. Clendinen report 1 new case in Pitt street, Fell's Point.

August 20th. Board met: Present, Messrs. Millemon, Hynson and Owens. Issued an order to J. Gitchel to receive Joseph Gelibart's two apprentices into the Hospital.

Nothing new west of the Falls.

Noah Fowler reports nine new cases on the Point.

August 21st, Nothing new west of the Falls.

Noah Fowler reports nothing new from the Point, the Physicians refusing to give any statement.\*

\* FELL'S POINT, 24th August, 1819.

To Edward Johnson, Esq.

SIR,

HAVING been called upon by the board of health to furnish them with daily reports respecting the Yellow Fever, which prevails here (as they have alledged) I readily acquiesced in the first instance, and reported my cases—But I did not even wish to state my opinion on the subject in direct terms. I therefore detailed the *symptoms* of such cases of disease as I reported—gave the names and places of abode of the subjects thereof, and occasionally intimated that the cases reported were of suspicious character. By the word suspicious I had reference to something which I have felt and still feel afraid is now *brewing*. I did not mean, that this, or that, person was *expected to have the Yellow Fever*, but might have, some other disease!! This would have *ill become any man of my profession*. The Yellow Fever is strongly characterized: the symptoms and appearances of it make impression on the mind of any physician who once sees it, such as cannot be effaced or mistaken.

These reports were made (I thought) confidentially—for the use and guidance of the Board of Health, and not for the public criticism\*\*\*and it has been with *great surprise* that I have seen them published; especially in the same style as reported, and with my name attached to them as responsible author-

*August 23d*, Joseph Legard reports nothing new west of the Falls.

Noah Fowler, no report except Dr. Page.

*August 24th*, Nothing new reported.

*August 25th*, Joseph Legard reports nothing new.

Noah Fowler reports two new cases by Dr. Elbert of Fell's Point.

ity. This has led many to believe in the extensive existence of the Yellow Fever on Fell's Point, before it could be fairly said to have existed. When these reports were issued, the cases which had occurred in this part of the city, were entitled to no other than the name of *sporadic cases*. And as sporadic cases they could concern but few persons in the community: The only good which could be expected to result from reporting them was *that of having their cause removed*. This indeed was, and still is, important. And this would make it the duty of every physician to report his cases daily, no matter how much his doing so might interfere with his private avocations. But not feeling willing to appear before the public, in the official light in which I was placed by the Board of Health, and share with them in all the good, or evil, which might, or might not, grow out of a necessary or unnecessary alarm; but above all not finding any good likely to result to this place by way of removing nuisances, and checking the Fever; I have declined reporting cases, to the Board of Health. In the mean while several additional cases have occurred, and they merit your most earnest attention.

The prevailing disease is strictly a miasmatic Fever. It wears all the Bilious grades from the highest malignant down to common Autumnal Fever.

It is in vain that you will look for the cause of it beyond seas: The cause is of domestic origin, and I suspect that it is at the very threshold of our own doors that we are to look for it successfully.

The weather is excessively hot; and it is an acknowledged fact that in hot seasons neglect of cleanliness will favor the generation of the causes of pestilence on ground lying low enveloped in moisture and stocked with vegetables of a suitable kind. Of these we have a great abundance in this quarter.

I have already named sundry nuisances to one of the Board of Health. He has very coolly and perhaps correctly remarked that "similar nuisances exist all over town!"

Several days have now elapsed and he has taken no measures to have these causes of disease removed.

I am not so much of a skeptic Sir, as to say that the great body of this city is of less importance than Fell's Point; but if this place were of no importance in a commercial point of view (which few men will say) we should have our health and lives attended to, and protected: as a part of the same community, although we reside somewhat detached from the wealth of this city, we have a right to claim this much of your hands.

*August 26th*, Nothing of importance west of the Falls. Several Doctors state that every description of disease is discontinuing.

Fell's Point—Drs. Clendinen, since the 20th inst. 32 new cases. Dr. Murphy, 6!! Dr. Martin 1 for the last 24 hours.

The Board of Health, in conjunction with the Mayor, met the Physicians of the Point at 3, P. M. to ascertain the cause of the prevailing disease.

*August 27th*, J. Legard reports nothing unfavorable west of the Falls.

N. Fowler reports 7 new cases from the Point.

*August 28th*, J. Legard reports nothing more than ordinary Billious cases west of the Falls.

N. Fowler reports 5 cases within the last 24 hours from the Point.

*August 29th*, Commissioners met, all present.

J. Legard reports nothing unfavorable west of the Falls.

N. Fowler reports 27 new cases of malignant character.

An order granted to Samuel Poor to remove all vessels lying at any wharf, from Barron's to Price's wharf 200 yards in the stream.

*August 30th*, J. Legard reports nothing of malignant character.

The following reports received from the Point—Dr. Murphy, 1. Dr. Allender, 4. Dr. Elbert, 2. Drs. Clendinen,\* 5. Dr. Martin, 7. Dr. Page, 5.—Total, 24.

Something unusual is germinating here; probably a great calamity hangs over us. And if this disease once becomes *epidemic*, all your efforts to *extinguish it* will be *fruitless*. Nothing but frost will be *sufficient to stop* its progress. It is impossible for any man to say whether or not it will become a general disease.

*Great efforts should be made therefore, with a view to avert this evil instead of folding your arms and abandoning us to our approaching fate\*\*\*\*\** It may soon become dangerous to perform any work, or transact any business here.

The lives of those who remain here either idle or employed, may be jeopardized in a few days. Therefore if the *Corporation have it in view to do any thing which contemplates restoring our health*; let it be done early on their own account.

Yours sincerely,

“—————M. D.”

\* Oliver Bond, a student of Drs. W. H. & A. Clendinen, died of the Fever last night.

To Christian Slimmer, Esq.

You will remove, or cause to be removed, all vessels containing water-mellons, lying west of Jones' Falls.

By Order of the Board of Health.

P. REIGART, Secretary.

Health Office, August 31st, 1819.

To Silvester Brown,

You will remove all vessels lying at any wharf, from County to Sugar House wharf.

By Order,

P. REIGART, Secretary.

Fell's Point—Dr. Elbert, 1. Dr. Martin, 4. Drs. Clendinen, 9. Dr. Allender, 3. Dr. Page, 2. Dr. Potter, 1. Granby Street.—Total 20.

September 1st, No new cases of malignant character, west of the Falls.

Fell's Point—Doctors Clendinen, 5. Dr. Martin, 1.

Dr. Allender, 1. Queen Street, near the Circus.—Total 7.

September 2. No new cases of malignant character west of the Falls.

Fell's Point—Doctor Martin, 1. Dr. Page, 1. Drs. Clendinen, 8, reported on the 3d inst.—Total 10.

September 3rd, No new cases of a malignant character west of the Falls.

Fell's Point—Dr. Martin, 3. Drs. Clendinen, 7. Dr. Page, 2. Total 12.

September 4th, No new cases of a malignant character west of the Falls.

Fell's Point—Drs. Clendinen, 4. Dr. Murphy, 4. Dr. Elbert, 6.

Dr. Diffenderffer, 1, Albermarl street, removed from Lancaster street, Fell's Point.—Total 15.

Drs. Allender and Martin, have gone to the country, with their families, and no report from them for the last 24 hours.

September 5th, Joseph Legard reports the following: Dr. Hall, 2, contracted on the Point. Dr. Reese, 1, Mill street, near the Jail!! Dr. Page, 1, Union street, O. T. contracted on the Point.

Fell's Point—Dr. Allender, 3. Drs. Clendinen, 4. Dr. Murphy, 10.

Drs. Jennings and Marrast, 4, of the same character of Fever which has commonly prevailed at Fell's Point.—Total 25.

*September 6th*, No new cases of a malignant character west of the Falls.

Fell's Point—Dr. Elbert, 2. Dr. Allender, 3. Dr. Martin, 2. Drs. Clendinen, 5. Dr. Murphy, 7.—Total 19.

*September 7th*, No new cases of a malignant character west of the Falls.

Fell's Point—Dr. Martin, 1. Dr. Chatard, 2. Dr. Allender, 4. Drs. Clendinen, 5.

Drs. Jennings and Marrast, 1, contracted on the Point.—Total 13.

*September 8th*, No new cases of a malignant character west of the Falls.

Fell's Point—Dr. Elbert, 4. Dr. Martin, 2. Dr. Allender, 3. Drs. Clendinen, 5. Dr. Page 1.

Dr. Buckler, 1, contracted on the Point, Market street extended.—Total 16.

*September 9th*, No new cases of a malignant character reported west of the Falls.

Fell's Point—Dr. Martin, 1. Dr. Murphy, 3. Dr. Elbert, 2. Dr. O'Conner, 2.—Total 8.

*September 10th*, No new cases of malignant character reported west of the Falls.

Fell's Point—Dr. Allender, 2. Dr. Elbert, 1. Dr. Murphy, 1. Dr. O'Conner, 3.—Total 7.

*September 11th*, No new cases of malignant character reported west of the Falls, with the exception of one case by Dr. Reese contracted on the Point.

Fell's Point—Dr. Martin, 4. Dr. Allender, 1. Dr. Clendinen,\* 6. Dr. Murphy, 4.—Total 16. Dr. Elbert indisposed.†

*September 12th*, No new cases of malignant character reported west of the Falls.

Fell's Point—Dr. Martin, 6. Dr. Allender, 2. Dr. Murphy, 5. Dr. O'Conner, 4.

\*Dr. M. D. Clark, a native of Ireland, who had lately been employed by the Drs. C. as an assistant, died of the Fever this morning.

† He left the City about this time, and remained away, with his family, during the Fever.

Dr. Reese, 1, M<sup>o</sup>Eldery street, contracted at Sinners' Hotel, Fell's Point.—Total 18.

*September 13th*, No new cases of malignant character west of the Falls, with the exception of one case by Dr. Alexander, Market street extended, contracted on the Point.

Fell's Point—Drs. Clendinen, 22. Dr. O'Conner, 5. Dr. Martin, 10. Dr. Murphy, 8. Dr. Allender, 3.

Dr. Townsend, 3, Encampment.—Total 52.

*September 14th*,\* No new cases of malignant character reported west of the Falls, with the exception of one case by Dr. Reese, Pratt street!!

Fell's Point—Dr. Allender, 6. Drs. Clendinen, 5. Dr. Murphy, 6. Dr. Martin, 8. Dr. O'Conner, 2. Dr. Page, 1.

Dr. Townsend 1, Encampment, removed to the Hospital.—Total 30.

*September 15th*, No case of malignant character reported west of the Falls, with the exception of one case by Dr. Fisher, South Charles street, removed from the Point, yesterday afternoon.

Fell's Point—Drs. Clendinen, 6. Dr. Murphy, 8. Dr. O'Conner 2. Dr. Martin, 13.—Total 30.

*September 16th*, No new cases of malignant character reported west of the Falls.

Fell's Point—Drs. Clendinen, 5. Dr. Martin, 8. O'Conner, 1. Dr. Allender indisposed.† (Dr. Murphy out of town.)—Total 14.

*September 17th*, No new cases of malignant character reported west of the Falls.

Fell's Point—Dr. O'Connor, 6. Dr. Murphy, 3. Drs. Clendinen, 3. Dr. Martin, 13.

Dr. Readel, 1, Old Town contracted at the Point. Dr. Gillingham, 1, Front Street Old Town, contracted at the Point.—Total 27.

*September 18th*, No new cases of malignant character west of the Falls.

Fell's Point—Dr. Martin, 6. Dr. O'Connor, 5. Dr. Murphy, 5.

Dr. Page, 1, Granby street, contracted on the Point. Dr. Reese, 2, Harford Road! removed from Wolf street, F. P.—Total 19.

\* Dr. Henry Dorrey died of the Fever on this day.

† Dr. Allender left town about the date of this record, and did not return to practice again during the Fever.

*September 19th*, No new cases reported as having originated west of the Falls, with the exception of one case by Dr. Richardson, Sharp street.

Fell's Point—Dr. Murphy, 5. Dr. Martin, 8. Dr. O'Connor, 5.

Dr. Perkins, 2, Dr. Hall, 2, removed from the Point. Dr. Brevitt, 1, French street. Dr. Townsend, 2, contracted on the Point.

Drs. Clendinen, reported on the 20th, 13 cases, ending on the morning of the 19th.—Total 39.

*September 20th*, Fell's Point—Dr. Martin, 8. Dr. Murphy, 2. Drs. Clendinen, 4.

Dr. Coulter, 2. Dr. Townsend, 1, Encampment. Dr. Potter, 1, Commerce street; originated west of the Falls. Dr. Baker, 1, contracted at the Point.—Total 19.

*September 21st*, Fell's Point—Drs. Clendinen, 6. Dr. Murphy, 15. Dr. Martin, 19. Dr. O'Connor, 2.

Dr. Page, 1, Harris' Creek. Dr. Sinnot, 1, Hook's Town Road. Dr. Coulter, 1, Gough street. Total 45.

*September 22d*, No cases of malignant character, reported, as having originated west of the Falls.

Fell's Point—Dr. Martin, 5. Dr. Murphy, 4. Dr. Page, 1, Washington street. Dr. Reese, 1, previously reported by Dr. Martin.

Dr. Brevitt, 1, contracted on the Point. Dr. Jamison, 1, Jail, do. do. Dr. Handy, 1, Jail, do. do. Drs. Birkhead and Bond, 1.—Total 15.

*September 23d*, No cases of malignant reported west of the Falls.

Fell's Point—Dr. Martin, 7. Dr. O'Conner, 8. Dr. Murphy, 6. Dr. Page, 1, Gough street.

Dr. Taylor, 1, East side of Pratt street bridge. Dr. Coulter, 1, Happy alley. Drs. Birkhead and Bond, 1 East of the Falls. Dr. Sinnot, 1, place not designated.

Drs. Clendinen had 6 new cases this day, but not reported until the afternoon.—Total 32.

*September 24th*, No new cases of malignant character reported as having originated west of the Falls.

Fell's Point—Dr. Martin, 14. Dr. Murphy, 11. Dr. O'Conner, 2. Drs. Clendinen, 6.

Dr. Reese, 1, Mill street, near the Jail, contracted at the Point. Dr. Townsend, 3, Encampment, lately removed from the Point. Dr. Jennings, 1, contracted on the Point. Dr. Donaldson, 1, contracted on the Point.—Total 39.

*September 25th*, Fell's Point—Dr. Martin 9. Dr. Murphy, 4. Dr. O'Conner, 5. Drs. Clendinen, 6. Dr. Johnson, 3.

Dr. Reese, 1, Britton street, contracted on the Point. Dr. H. Bond, 1, contracted on the Point.—Total 29.

*September 26th*, No new cases of malignant character reported west of the Falls.

Fell's Point—Drs. Clendinen, 5. Dr. Murphy, 9. Dr. Martin, 14.

Dr. Coulter, 1, contracted at the Point. Dr. Dunan, 1, removed from the Point.—Total 30.

*September 27th*, No new cases of malignant character reported as having originated west of Harford Run.

Fell's Point—Dr. Johnson,\* 5. Dr. O'Conner, 9. Dr. Murphy, 5. Drs. Clendinen, 5.

Dr. Cromwell, 1, contracted at the Point. Dr. Dunan, 1, Federal Hill, a Fisherman.—Total 26.

*September 28th*, Fell's Point—Dr. Johnson, 8. Dr. Ealer,† 3. Dr. O'Conner, indisposed. Drs. Clendinen, 5.

Drs. Jennings and Marrast, 1, Federal Hill, a fisherman who has been down the river lately. Dr. Caldwell, 1, Alms House. Total 18.

*September 29th*, Fell's Point—Dr. Johnson, 2. Dr. Murphy, 5, Dr. Ealer, 1.

Dr. Page, 3, two Washington street, Fell's Point, and one Exeter street, Old Town, contracted at the Point. Dr. Welsh, 1, contracted at the Point. Dr. Townsend, 1, Encampment.† Dr.

\* His residence hitherto has been west of the Falls; he has now gone down to the Point to occupy the premises and attend to the practice of Dr. S. B. Martin, who has left the City to join his family.

† Dr. Ealer, the only Apothecary remaining within the impure limits of air now began to report cases as an attending Physician.

Of NINE practicing Physicians who resided on the Point when the Fever first began to rage, there remained to the last but three: Of three who subsequently took up their residence there as assistants two died, and one continued until the disease subsided, and then settled there permanently. From a few Physicians west of the Falls, (particularly Dr. J. Owen,) the sick received constant attendance during the whole calamity.

‡ ANNAPOLIS, September 26th, 1819.

SIR,

Understanding that the number of unfortunate and distressed persons, who have been driven from Fell's Point by the prevailing Fever, and who are now supported at the expense of the City of Baltimore, at the place called the encampment, increases daily; and that the loan of all or a part of the tents belonging to the State, of which there are several hundred in Baltimore, might be of service: Although the executive may perhaps not

Y

Alexander, 1. Dr. Brevitt, 1, High street. Dr. Taylor, 2, Front street, Old Town, contracted the disease near Pratt street bridge, one on M'Eldrey's wharf.—Total 17.

September 30th,\* Fell's Point—Dr. Johnson, 6. Dr. Murphy, 3.

Dr. Dunan, 3, two on the Point and one on the Philadelphia Road. Dr. H. Bond, 1, contracted at the Point. Dr. Baker, 1, Guilford alley, contracted at the Point. Dr. Alexander, 1, North Calvert street, a Seaman. Dr. Page, 2, one Washington street, Fell's Point one High street, M'Eldery's wharf. Dr. Taylor, 1, Prince street near Pratt street Bridge.—Total 18.

October 1st, Fell's Point—Drs. Clendinen, 7. Dr. Johnson, 4. Dr. Dunan, 1.

Dr. Handy, 1, Guilford alley, near Christopher Hughe's.—Total 13.

October 2d, Fell's Point—Dr. Johnson, 6. Dr. Murphy, 6. Drs. Clendinen, 5.

have a legal authority to dispose of this article of the State's property, I have no doubt the rendering such an accomodation to your City in its present distress, would be approved of and sanctioned by the Legislature. I would therefore venture, with the approbation of such of the gentlemen of the Council as I can have an opportunity to consult, to furnish you with as many of the tents as you may require, upon a satisfactory engagement being entered into for their return. As Col. Howard, one member of the Council is in Baltimore, it might be respectful, and proper for you to mention the subject to him, that his opinion as to the propriety of this measure may be communicated. I will myself advise with Major Chapman, another member of the Council, who is in Annapolis. If you find it necessary to make use of the accomodation suggested, any communication you may think proper to make upon the subject will be respectfully and promptly attended to.

I will ask the favour of you to put the inclosed order into the hands proper to direct its application to the object intended.

With much respect I am Sir,

Your most obedient servant,

Edward Johnson, Esq.

C. GOLDSBOROUGH.

SIR,

I have the honour to enclose an order for the delivery of any tents or articles of Camp Equipage belonging to the State of Maryland, which may be required for the accomodation of our fellow citizens in the encampment.

And remain very respectfully,

Your most obedient servant,

JOHN E HOWARD, Jun.

His Honour the Mayor of Baltimore.

\* Dr. J. O'Conner died of the prevailing Fever on this day.

Reese, 2, Bond street, F. P. Dr. Townsend, 1, Encampment.  
Dr. Coulter, 1, Carolina, street F. P. Dr. Dunan, 3, one Fell's  
Point, one High street, O. T. one York street. Dr. Page, 1,  
Alisanna street, F. P.

Deduct from the above amount of new cases, the two cases from  
Bond street, previously report by Dr. Murphy.—Total 25.

*October 3d*, No cases of malignant Fever reported west of Har-  
ford Run.

Fell's Point—Dr. Johnson, 3. Dr. Murphy, 3. Dr. Clendinen,  
5. Dr. Coulter, 1.—Total 12.

*October 4th*, Fell's Point—Dr. Johnson, 4. Dr. Murphy, 5.  
Drs. Clendinen, 5. Dr. Ealer, 2. Dr. Page, 1.

Dr. Welsh, 2, one Bridge street extended, contracted on Smith's  
dock, one Green street, O. T. Dr. Dunan, 1, removed from the  
Point.—Total 20.

*October 5th*, Fell's Point—Dr. Murphy, 4. Dr. Johnson, 2.  
Dr. Ealer, 1.

Dr. Dunan, 2, Federal Hill, corner of Hill and Goodman streets.  
Total 9.

*October 6th*, No new cases reported west of Harford Run.

Fell's Point—Dr. Murphy, 6. Dr. Johnson, 3. Drs. Clen-  
dinen, 2. Dr. Ealer, 1. Dr. Page, 3.—Total 15.

*October 7th*, Fell's Point—Drs. Clendinen, 7. Dr. Johnson, 2.  
Dr. Murphy, 3. Dr. Ealer, 2.

Dr. Dunan, 3, one French street, O. T. one Goodman street,  
one removed from the Point.—Total 17.

*October 8th*, Fell's Point—Dr. Johnson, 1. Dr. Murphy, 5.  
Dr. Ealer, 2. Drs. Clendinen, 3.

Drs. Jennings and Marrast, 1, near Hughs' Quay.—Total 12.

*October 9th*, No new cases of malignant character reported  
west of Harford Run.

Fell's Point—Dr. Murphy, 3. Dr. Johnson, 2. Dr. Ealer, 1.  
Drs. Clendinen, 3.—Total 9.

*October 10th*, Fell's Point—Dr. Murphy, 6. Dr. Johnson, 2.  
Drs. Clendinen, 1. Dr. Coulter, 1. Total 10.

*October 11th*, No new cases reported west of Harford Run.

Fell's Point—Dr. Johnson, 4. Dr. Murphy, 5. Drs. Clen-  
dinen, 1.—Total 10.

*October 12th*, Fell's Point—Dr. Johnson, 5. Dr. Murphy, 5.  
Drs. Clendinen, 2.

Dr. Taylor, 2, returned from the country a few days since.  
Dr. Reese, 1, visited the Point.—Total 15.

This day the Board discontinued to collect the reports of the Physicians west of Harford Run.

October 13th, Dr. Murphy, 3. Dr. Johnson, 2. Drs. Clendinen, 4.—Total 9.

October 14th, Dr. Johnson, 4. Drs. Clendinen, 5. Dr. Murphy, 3.—Total 12.

October 15th, Dr. Murphy, 3. Dr. Johnson, 4. Drs. Clendinen, 5.—Total 9.

October 16th, Dr. Johnson, 2. Dr. Murphy, 4. Drs. Clendinen, 2. Dr. Ealer, 2.—Total 10.

October 17th, Dr. Murphy,\* 2. Drs. Clendinen, 4. Dr. Johnson, 3.—Total 9.

October 18th, Drs. Clendinen, 3.

October 19th, No new cases reported this day.

October 20th, No new cases this day.—The Board discontinued to collect the reports of the Physicians of Fell's Point.—Total 1,005. But this number is not supposed to include all the cases which occurred during the summer.

ERRATA.—August 26th, read, Dr. Murphy, 16.

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FELL'S POINT, 1st November, 1819.

To Edward Johnson, Esq.

SIR,

THE Malignant Fever of this place having now terminated, we offer you our final report comprising all the Bilious Fevers with which we have had to contend from the first of July to this date:

It appears from our books, that we have reported to the Board of Health, 272 patients as having had MALIGNANT FEVER. Of this number we sent two to the *Hospital*. The balance under our care 270. These we have divided into two classes. The first embracing such as applied within twenty-four hours of their attack, 144—of whom 12 died. The second class, such as applied from the 2d to the 5th day, 126—of whom 26 died. Total deaths 38. Total recovered 232.

Beside the cases so reported we had 60 patients, who laboured under the same character of Fever, and 300 who had milder grades of Fever. Above one half of the first named patients sickened in the neighborhood of the City, before the daily reports were issued. The remainder fell under our notice subsequently, in the country, among those who had gone away in hopes to escape the disease—of those 4 died. A very large proportion of the latter character sickened in town, in July and August, and some at every period of the summer: But the greatest number of them, after leaving town, and taking up their abode near marshes—of those 5 died. Total of every grade 650—Of deaths 47. Recovered 583.

W. H. & A. CLENDINEN.

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\*Dr. Henderson, a native of Virginia, who had volunteered his services, and aided Dr. Murphy, died of the Fever about the date of this report.

*Report of Interments in the City of Baltimore, from the first of January, 1819, to the first of January, 1820.*

	MALES.	FEMALES.	TOTAL.	OF WHOM COLOURED.
JANUARY	77	47	124	40
FEBRUARY	60	56	116	27
MARCH	81	62	143	44
APRIL	97	72	149	51
MAY	68	67	155	44
JUNE	74	47	121	34
JULY	126	112	238	73
AUGUST	196	120	316	71
SEPTEMBER	272	202	474	59
OCTOBER	138	105	243	67
NOVEMBER	54	50	104	29
DECEMBER	60	44	104	32
<b>TOTAL</b>	<b>1,303</b>	<b>984</b>	<b>2,287</b>	<b>571</b>

**OF WHOM WERE**

Of the age of one year and under	516	From fifty to sixty	-	71
Between the age of one and two years	252	sixty to seventy	-	39
From two to five years	129	seventy to eighty	-	35
five to ten	147	eighty to ninety	-	27
ten to twenty	291	ninety to an hundred	-	9
twenty to thirty	357	over an hundred	-	1
thirty to forty	191	Still born	-	105
forty to fifty	117			
		<b>TOTAL</b>		<b>2,287</b>

**OF THE FOLLOWING DISEASES:**

Abscess	1	Fever Intermittent	4	Murdered	7
Apoplexy	21	: Malignant	350	Old Age	77
Asthma	5	: Nervous	2	Palsy	7
Burn	2	: Remittent	2	Plurisy	41
Cancer	4	: Typhus	84	Rheumatism	5
Casualty	17	Flux	5	Scrofula	2
Child-bed	18	Fistula	1	Small-pox	1
Cholera-morbus	125	Gravel	3	Sore throat	11
Cholic	4	Gout	1	Spasm	3
Consumption	272	Hæmorrhage	3	Still born	105
Convulsions	89	Hives	3	Sudden death	16
Cramp in the stomach	3	Jaundice	2	Do. by drinking cold water	8
Croup	57	Intemperance	46	Suicide	3
Decay	88	Insanity	1	Syphilis	3
Dropsay	41	Inflammation of the stomach	1	Teething	27
Do. in the head	27	: Lungs	29	Whooping-cough	78
Drowned	31	: Bowels	1	Worms	59
Dysentery	21	: Brain	10	Unknown	91
Epilepsy	4	Lock-jaw	2		
Fever	4	Measles	116	<b>TOTAL</b>	<b>2,287</b>
: Bilious	73	Mortification	26		
: Inflammatory	2				

*By order of the Board of Health,*

*P. REIGART, Secy.*

*Extract from the Mayor's Message.*

*Gentlemen of the First and Second Branches of the City Council,*

THE awful visitation with which it has pleased Divine Providence to afflict a part of our City, during the past summer, and the many inconveniences experienced by all, any ways connected with the general prosperity and welfare, will impose arduous and important additional duties to be performed by you during your present session, as an investigation of the probable cause of the origin, and extension of the late calamitous Epidemic, and providing measures of precaution relative to the future health of the City, and removing every nuisance that may be suspected of contributing to the production or extension of disease, will certainly be expected by our fellow citizens.

With a view to be enabled to afford you all the assistance in my power, I addressed a Circular to the Medical Gentlemen of our City, requesting their opinion and advice as to the probable cause of the late Epidemic, and of the existence of nuisances, either general or particular, whereby the health of the City was probably impaired; and what measures they would recommend, as the cheapest, most expeditious and most effectual for their removal.

Calculating on the continuance of the strong interest felt by them on this subject, and so often manifested by their prompt attention to the many and troublesome communications from the Board of Health, during the time of the Fever, (with great pleasure I mention the able council and support which we constantly received from the Medical Gentlemen generally, during the time of the distress :) Many of whom visited the Health-Office almost daily, to see in what manner they could become serviceable; not the Junior members of the Faculty only, but such as by age and experience are considered as at the head of the profession.

Very early in the disease anticipating its extension, preparations were made for the comfort and relief of those resident within the infected district, who were solicited and personally importuned to remove, without much effect, until the 27th day of August, when the character of the disease was clearly ascertained, and fifty-two new cases reported by the Physicians.

The Officer commanding the United States Arsenal, near this City, being applied to, freely granted as many tents as we requested; and it is with pleasure I add, that this humane act has been highly approved by the War Department: The Governor of Maryland also, spontaneously tendered the use of those belonging to

the state, so far as he could influence the disposal of them, accompanying this tender with a handsome private donation, for the use of the poor. Two rope walks at the eastern extremity of the City were also obtained, which with the tents, were soon filled with near a thousand people.

To provide for their wants, and preserve order among such a population hastily collected together, and composed of almost every description of persons, a Committee of eight of our worthy citizens, to wit: John Hillen, Joseph Townsend, Frederick Shaeffer, John Lee, Eli Balderson, Richard K. Heath, Lambert Thomas and George Decker, were appointed to manage the weighty concern. System immediately sprung from their exertions: order was introduced, cleanliness enforced, and provisions distributed, with a bountiful yet discriminating hand; the necessary consequence of which was that uncommon health was enjoyed, although a part of the time they were encamped was very inclement.

When the sickness abated, it is but just to say, that they returned to their own houses in a very orderly manner, fully impressed with a sense of the beneficent efforts that had been made to preserve them from the pestilence, and to provide them with the necessaries of life.

For the relief of the poor at the Encampment, the Commissioners expended articles to the value of eight thousand three hundred and eleven dollars, of which they have rendered a minute and detailed account.

The resources for this disbursement were chiefly furnished by donations in money, and provisions by our citizens, excepting the generous aids received from George Town, (District of Columbia,) Tawney Town, and Union Town, in Frederick County.

When the encampment was broken up, the articles on hand were distributed with discretion, and the amount of donations was so managed as to meet the disbursements. The highest encomium I can pass, and the strongest expression of the grateful sense felt for the kind and friendly aid derived from their labours will be made by calling your attention to a report of their proceeding herewith presented to you.

In adverting to this calamity I should commit an act of injustice, were I to neglect noticing the humane and magnanimous exertions of the Medical Gentlemen, residing in, or in the vicinity of the infected district, and those who volunteered their assistance when the disease had attained its greatest extent and malignity; some time previous to which period the more wealthy of our citi-

zens and their families from within the district had removed, and very few remained except those who, by the deprivation of the usual means of support, or from extreme indigence, were able to afford but little prospect to the Physician of pecuniary remuneration, equal even to that which he might actually be called upon to expend from his own means on their account: They still persevered and attended, indiscriminately, all, the rich and the poor, suffering no considerations to deter them from the indulgence of their philanthropic feelings. As the cases of affliction multiplied, the calls upon them increased, and their natural rest was destroyed, and their anxieties strained to such a pitch, their own lives appeared likely to become a sacrifice to their disinterested zeal. I had daily interviews with them, and could not but observe that they were exhausted, completely worn out; and it appeared to me impossible, that the sick could much longer receive from them that prompt and steady attention the nature of the malady required.

In this situation of things my duty appeared obvious: supported in this, as in all other the most trying occurrences of the time, by the board of health, the Medical Gentlemen were encouraged to a continuance of their kind offices among a people whose confidence they possessed, and were promised the aid and assistance of other Physicians, as far as I could rightfully do, and the faith of the City was pledged to indemnify them all for their attendance on the poor, which I entreated might be given as freely to them as to others. I feel it my bounden duty to declare my conviction that the Medical Gentlemen located at or near the infected district, and those who in the emergency stated, stepped forward to assist them with equal humanity and equal hazard to themselves, administered to such as were the especial objects of my care as to those of others who were able to render complete remuneration. For this generous conduct they have strong claims on our gratitude, and a right to expect pecuniary compensation, for their time and money expended. I feel it a duty likewise to notice the conduct of Noah Fowler, one of the City Bailiffs, on this trying occasion, whose laborious and dangerous duties of removing the sick, and attending to the burying of the dead, were most faithfully and cheerfully performed, though at the expense of great bodily fatigue, and imminent risk of the loss of life.

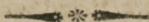
In the early part of the year the limited resources of the City, and the extreme difficulty of obtaining the requisite funds to meet, even current expences, occasioned a postponement of many works directed by the ordinances of your last session to be completed.

The situation of Pratt street, at the time a perfect nuisance, and if not duly attended to likely to become the fruitful source of dis-

ease and death, required and received the unremitting attention of the City Commissioners and Port Wardens, and the mud and other filth was so effectually covered as to remove every apprehension of danger.

The faithful and substantial manner of its completion affords general satisfaction, being entirely of stone instead of wood, thereby removing the fears and apprehensions of many, the Medical Gentlemen of our City considering our decaying wooden wharves as contributing largely in the production of miasma, and thereby endangering the general health of our City.

January 3rd, 1820.



DR. ASHTON ALEXANDER,

*President of the District Medical Society*

SIR,

THE committee to whom is referred by both branches of the City Council that part of the Mayor's communication, recommending an inquiry into the causes, and the adoption of the most effectual means to prevent the recurrence of the Malignant Fever with which our city was so unhappily afflicted during the last summer, sensible of the great importance of this enquiry, and aware of the well grounded anxiety of our citizens on these interesting subjects, are anxious to possess the fullest and most accurate information relative to them; they have therefore addressed this society, to the result of whose deliberations they look with confidence for materials of a report, on which laws will be founded, that may in their administration, under Divine Providence, prevent a return to our city of this distressing calamity, and extend its beneficial effects to our sister cities. The committee respectfully invite the attention of the society to the following questions, and hope to receive the required information at as early a period as the other engagements of the society will admit of.

1st. What were the causes, general and particular, which in the opinion of the District Medical Society, produced the Malignant Fever at Smith's wharf, and what at Fell's Point, in the summer of eighteen hundred and nineteen.

2d. Particularly, how far was the Fever to be ascribed to the heat and dryness of the season; how far to the decomposition or decay of animal substances; how far to the vegetable substances; and how far to stagnant water in any part of the city.

Z

3d. Was it in any degree, and to what extent, to be ascribed to the condition of Smith's wharf, the alley back; to Wolf street and Pitt street; to made grounds, cellars under made grounds; and the situation of cellars generally, and to the lowness, or condition of back yards.

4th. Was it in any degree to be ascribed to wharves being built of wood; and is there any thing peculiar in the construction of the wharves near where the fever most prevailed.

5th. Was the fever imported; was any foreign substance of a hurtful kind brought to our city, which, in whole or in part, caused the fever; is it contagious; were there any cases of contagion.

6th. In what degree was the prevalence of the fever to be ascribed to the habits, mode of living, &c. of the people in the infected parts of the city.

7th. What changes do you recommend in the organization of the Board of Health; what alterations in the ordinances relative to quarantine; what reform in the police and regulations of the city; would not a rigorous inspection into the condition of the cellars, yards, &c. of the low parts of the city, particularly near the water, as early as March in each year, be beneficial, and a judicious precaution.

The committee would be glad to receive from the society any other information connected with these inquiries, that would assist the committee in making a report, conformably with the reference to them by the City Council as aforesaid.

Signed,

DAVID BURKE,

*Chairman of the Committee.*

*Baltimore January, 1820.*



To DAVID BURKE, Esq.

*Chairman of the Committee. &c.*

DEAR SIR,

I enclose you the answer of the District Medical and Chirurgical Society, to your letter, addressed to it, through the President.

JOHN B. CALDWELL, Sec'y.

*Baltimore, January 22d, 1820.*

The health of our city is a subject full of interest, and in the promotion of this grand object, the most active and zealous co-operation of every citizen is demanded, and more especially of those who have made the preservation of that invaluable blessing the subject of their peculiar study. The society has viewed with the most anxious solicitude the recent appearance of the Malignant Yellow Fever amongst us; and since their co-operation has been invited by the constituted authorities of the city, they have embraced the earliest opportunity to deliberate on that momentous subject.

The society cannot help feeling deeply impressed with the magnitude and importance of the trust assigned to them, and in order to meet its responsibilities, they have reflected much, they have listened to every suggestion which an ardent wish for the prosperity of our city could inspire, and carefully examined every proposition tending either directly or indirectly to establish and perpetuate the general health. The result of their deliberations is respectfully submitted to the consideration of the Mayor and Council.

The Malignant Fever which prevailed at Smith's wharf and at Fell's Point in the summer of 1819, in the opinion of this Society, is to be ascribed to the decomposition of vegetable matters—This opinion is supported by the following facts—The alley back of Smith's wharf has been filled up with dock mud, shavings, and other putrescent materials—The same remarks will apply to the construction of Smith's wharf generally, and also to those parts of the Point where the fever first appeared. It is highly probable that the logs composing the wharves in many places, have contributed in their decomposition to the production of the noxious cause. It is notorious to all who have made any observations on this subject, that the disease raged with more violence along the course of the wharves and the made grounds in their vicinity, than in places remote. From a recent inspection of Kerr's wharf, and other wharves, it has been discovered, that from the decay of the facings of the wharf, the water has been admitted, so as to have formed subterraneous pools. These may have found communication with the cellars in the made grounds in the vicinity, and may have penetrated to the piles constituting the foundation of the neighbouring houses, and thus have been led up into cellars, which may be the deposits of various putrescible articles. The immense mass of materials just adverted to, are buried from the eye of a superficial observer, these materials have existed, and others have been accumulating for many years. Why have they remained so long dormant? so long innoxious? While the heat of our summer remained moderate, the destructive principal was only partially evolved; but when the intense heat of the last summer penetrated the apparently inoffensive earthly covering, and reached the subjacent mass of

perishable materials, they were subjected to a temperature to which they were unaccustomed—a temperature which gave origin to the cause of the disease.

*Question as to the efficiency of putrid animal matters producing Yellow Fever.*

The society does not consider the putrefaction of animal matters competent to the production of Yellow Fever.

*Question of influence of back yards.*

The lowness of back yards, especially when they become the deposits of kitchen offals and vegetable matters, renders them liable to produce Yellow Fever.

*Question of contagion and importation.*

The doctrines of contagion and importation receive no countenance from this society—They believe that the cause of the disease may be imported; by this is understood a cargo of vegetable substances in a putrescent state.

*Question as to influence of habits, modes of living, &c.*

The habits, modes of living, &c. of the people in the infected district, did not differ from those of other persons of the same rank or character in other parts of the city, where the disease did not prevail, consequently the disease could not with any propriety be referred to these circumstances as the cause.

When a district is infected, all who breathe the air of that district may be considered as under the impression of the remote cause, (*i.e.* the noxious air.) The inhalation of this noxious air does not necessarily induce disease—It is often inhaled with impunity; but when by irregularity of living, excesses of any kind, want of sustenance or loss of rest, the system becomes debilitated, the disease is frequently excited, when it might otherwise have been avoided.

Having adverted to the supposed causes of the late epidemic—the following suggestions are respectfully recommended to the attention of your body as calculated to mitigate the force, if not to prevent the recurrence of the dire calamity under which a part of our community lately suffered so severely—

1st. In the organization of the Board of Health it would be important to have at least one medical character, to whose counsel they might refer in all matters touching the health of the city—having at command an energetic police, vested with full powers to

remove persons and property in all cases where the public welfare and safety require it.

2dly. The most prompt attention should be paid to the docks and wharves, more especially to those in the vicinity of which the Fever first prevailed. The docks should be cleansed early in the spring, and the mud proceeding therefrom should, if deposited on the surface, be protected from the sun by a dense coat of clay or other earth. The wharves should be closely inspected, and when perishable and putrescible materials have been deposited in any quantity, they should, if practicable, be removed, or if that cannot be done, a heavy covering of clay should be faithfully applied over the general surface of the wharf, and puddled along the logs down to the waters edge; after which they should have a thick stratum of sand and be firmly paved, with an elevation in the centre, so as to permit the rain to wash off any impurities which may be deposited on the surface. This it is presumed will form a coat so impervious as to resist the transmission of the noxious effluvia. In future it should be subjoined that all wharves or repairs of wharves should be constructed on the plan of Pratt street wharf, with stone facings descending to low or beneath low water mark, so that the logs which support them may always be immersed in water, and under these circumstances they are less liable to decay.

3dly. The streets, lanes and alleys, which are unpaved, more especially such as are in the vicinity of the docks, should be well covered with earth and paved—and if putrescent matters abound, they should if possible be dug out and removed. Those already paved, which contain water, should be raised, and a more vigilant attention paid to the sewers and gutters generally.

4thly. Cellars in made grounds should either be prohibited, or the proprietor or occupier should be compelled to keep them dry.

5thly. Heavy penalties should be inflicted on all persons who fill up low, wet grounds with putrescent materials. All made grounds should be kept dry, either by raising them so as to carry off the water, or by draining them.

6thly. The cove between Town and Point should be improved, wharved out and filled up as soon as may be practicable. The shores of the cove afford a prolific soil for the generation of the cause of Yellow Fever. The space between M'Eldery's and Jones' Falls is also in a situation requiring the attention of the corporation.

7thly. It would be highly important to establish a regular and rigorous inspection of back yards, cellars and lots in made grounds,

more particularly those near the water, commencing in March and continuing until November.

8thly. Measures should be taken to remove all offals or impurities of any description which may be deposited on the wharves or in the docks.

9thly. The quarantine regulations should be rigidly enforced in all cases where the cargo is damaged or the vessel is in a foul state, until a change of condition will safely permit her entrance into port—but these regulations should not deprive the passengers or crew of the privilege of free communication with the city.

10thly. As the city extends, lots should be purchased as public squares to favour the free circulation of air—The planting of trees is recommended generally: for this purpose some of our forest trees, which are highly ornamental, may be introduced; they would afford a shade in summer, and prove eminently serviceable in purifying the atmosphere.

11th. It is respectfully recommended that the following laws be repealed; first, that restricting hogs running at large; secondly, that which makes it penal to throw kitchen offals in the streets—The propriety of this recommendation is founded on the fact, that hogs destroy vast quantities of such matters, which, if suffered to undergo decomposition, might prove pernicious to health. At the same time it is expected that the superintendants of streets will not permit any accumulation of these matters, which may become a source of annoyance to the citizens.

By order of the Society,

ASHTON ALEXANDER, Pres't.

JOHN B. CALDWELL Sec'y.

*A Further Supplement to the Ordinance to preserve the Health of the City of Baltimore, and for the due performance of Quarantine at the Port of Baltimore.*

*I. BE it enacted and ordained by the Mayor and City Council of Baltimore, That there shall be annually appointed three Commissioners of Health and one consulting physician, and that the said Commissioners shall form and constitute the Board of Health.*

*II. And be it enacted and ordained, That the Commissioners of Health, with the approbation of the Mayor, be, and they are hereby authorised and directed, to lay off and divide the City into three districts; each district to embrace such parts of the City as they may consider best calculated to secure the execution of the provisions of this Ordinance, and that the duties of each district shall be assigned by the Mayor to one of the Commissioners.*

*III. And be it enacted and ordained, That the said Board of Health, shall meet as such, twice in every week, between the first day of March and first day of November in every year, and once in every two weeks between the first day of November and first day of March in every year, and at such other times as they may appoint by their own adjournments, or may be called together by the Mayor or consulting Physician; and it shall be the duty of the consulting Physician to attend all meetings of the Board whenever required so to do by them, or any one of them; the said board of Health may appoint a Secretary, and shall possess all powers and perform all duties and have all the authority incumbent on, or belonging to the late Board of Health or Commissioners of the City, in relation to the public health; and it shall be the duty of the said Commissioners to record all their proceedings as such, and as often as they act seperately in their respective districts, to report their individual proceedings at least once in two weeks to the Secretary, whose duty it shall be to record all such proceedings, whether they are those of the Board, or those of the several members thereof seperately in their respective districts.*

*IV. And be it enacted and ordained, That it shall be the duty of the consulting Physician to give to the Mayor and other City authorities, all such professional advice and information as they may require, with a view to the preservation of the public health; to enquire into the health of the City, and whenever he shall hear*

of the existence of any malignant, pestilential or contagious disease, to investigate such report, and ascertain as correctly as possible, the causes which produced said disease, to report the same to the Board, to suggest measures to arrest its progress, and to report to the Mayor, to the Board of Health, or Commissioner of the district, as the case may require, every circumstance likely to endanger the health of the City.

V. *And be it enacted and ordained,* That it shall be the duty of each of the said commissioners to inspect, at least once in every two weeks, between the first day of March and the first day of November in every year, and at such other periods as the Mayor may direct, all the streets, lanes, alleys, wharves, warehouses, cellars, yards and lumber yards, lots and docks of his district, and all other places they may think necessary to examine and inspect, and to report to the Board of Health the general state of his district, once in every two weeks, and to enforce all laws and ordinances having any relation to health; to remove, or cause to be removed, all nuisances, to perform all such duties connected with the health department as are now usually performed by the Commissioners of the City, and all others which may be required of him by the Mayor or the Board of Health; and they shall have power to appoint, license and remove all night men at their pleasure.

VI. *And be it enacted and ordained,* That the Superintendants of Streets, shall be and are hereby placed under the direction of the Commissions of Health, and shall obey their order, and assist them in the execution of their office.

VII. *And be it enacted and ordained,* That the Board of Health may, with the approbation of the Mayor, direct the removal of all persons from any part of the City where the consulting Physician shall be of opinion the public health would be endangered by the inhabitants remaining there; and every person who shall refuse or neglect to remove within forty-eight hours after receipt of a written or printed notice to that effect, personally served or left at his or her residence, shall forfeit and pay a sum not exceeding twenty dollars for every twenty-four hours such person shall so refuse or neglect after the said forty-eight hours; and every person who shall without permission in writing from a member of the Board of Health, return to the district or part of the City from which the inhabitants may have been removed, shall forfeit and pay a sum not exceeding twenty dollars for each and every offence, and the like sum not exceeding twenty dollars for every twenty-four hours such person shall remain therein; and it shall be the duty of the Commissioner of the district to cause process to issue daily for the

recovery of all such fines; Provided, however, that when such removals shall be ordered, if the said Commissioners shall be satisfied that the persons have not the means of removing, they shall be removed at the public expense to some situation to be provided by the Commissioners for that purpose.

VIII. *And be it enacted and ordained*, That if any person shall wilfully and knowingly obstruct or resist the Board of Health, or any of the members thereof, or any person by them appointed in the execution of the powers to them given, or in the performance of duties enjoined on them by this or any other Ordinance in relation to the public health, such person shall, on being thereof legally convicted, forfeit and pay a sum not exceeding two hundred dollars.

IX. *And be it enacted and ordained*, That every person keeping a tavern, boarding or lodging house in the City of Baltimore, between the first day of June and first day of November, shall within twenty-four hours after any sea-faring man or sojourner shall become sick in such tavern, boarding and lodging house, report in writing the name of such diseased person to the Mayor or Board of Health; and no master of a vessel, or other person whatever, from any vessel lying in the harbour of Baltimore, shall remove any sick person therefrom before such person has been visited by the consulting Physician, Mayor or some member of the Board of Health, and a written permit granted by the said consulting Physician, Mayor or member of the Board of Health, for the purpose of such removal; and any person neglecting or refusing to comply with the provisions of this section, shall, on legal conviction thereof, be subject to a fine not exceeding twenty dollars for each and every offence.

X. *And be it enacted and ordained*, That the consulting Physician shall receive an annual salary of four hundred dollars, the said Commissioners an annual salary of six hundred dollars each, and the Secretary an annual salary of four hundred dollars.

XI. *And be it enacted and ordained*, That should either of the members of the Board of Health, or the consulting Physician, refuse or neglect to do and perform any of the duties imposed on them by this or any other Ordinance in relation to the public health, such member or consulting Physician so neglecting and refusing shall on legal conviction thereof, be subject to a fine not exceeding one hundred dollars.

XII. *And be it enacted and ordained*, That it shall be the duty of the Mayor, whenever the Board of Health shall report to him that there is reason to believe that a contagious or malignant fever

prevails in the City, immediately to cause the City Council to be convened, in order to communicate to them all the information which he may have received respecting the same, that the City Council may take such measures as may seem prudent and proper on the occasion.

XIII. *And be it enacted and ordained,* That the said Commissioners shall reside in the district in which they are respectively required to perform duty.

XIV. *And be it enacted and ordained,* That the ordinance passed the 10th of February, 1820, entitled "A further supplement to the Ordinance to preserve the Health of the City of Baltimore, and for the due performance of Quarantine at the Port of Baltimore," and also so much of all former Ordinances as is supplied by, repugnant to, or inconsistent with this Ordinance, be and the same are hereby repealed.

*Approved, February 29th, 1820.*

EDWARD JOHNSON, MAYOR.

CITY OF BALTIMORE, June 8th, 1820.

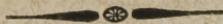
SIR,

I submit, for your consideration, the enclosed letters, and other documents, on the subject of the Yellow Fever at Mobile. If they can be of any use, either in aiding you, to devise measures, for the better preservation of the Health of this City; or, in completing the work which you have put to press, on this subject, with the views, (as you have stated,) of disseminating useful knowledge and benefiting the afflicted poor of this part of the City, they are at your disposal.

Yours respectfully,

A. CLENDINEN.

EDWARD JOHNSON, Esq.



FELL'S POINT, BALTIMORE, Dec. 26th, 1819.

DEAR SIR,

HAVING read with much concern and interest a letter\* of yours, which was published lately in our newspapers, giving an account of the *death of two of my professional brethren*; and of the general ravages of the YELLOW FEVER at *Mobile*; and de-

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\* FORT STODDART, 15th November, 1819.

DEAR SIR,

SOME time since you did me the favour to introduce to my acquaintance, your friend Dr. Lawton, an able Physician and most benevolent and useful man, whose exertions, both by day and by night, in the cause of humanity, during the prevalence of the Yellow Fever at Mobile, were unremitting. But, alas! he has himself fallen a victim to that disease, in consequence, no doubt, of the zeal with which he adhered to his professional avocations, and sought to afford relief to others. Dr. Robinson (a brother of the Dr. Robinson who went to Mexico) remained at this post, and also fell.

tailing a most valuable fact, and plausible opinion bottomed on it, respecting the cause of the Fever; I am anxious to receive further information on the subject. You have already touched at some of

Dr. Lawton's feelings had, a few weeks before his own death, been harrowed up by the loss of his wife, in the prevailing Fever—and so anxious was he to consult the sensibilities of her relations, that he attempted, as I am told, to have her body preserved in spirits for the purpose of being conveyed to the place of her nativity—but he failed in the attempt.

The mortality in Mobile has been greater, in proportion to the numbers, than I have ever heard of in any other place; and it has, no doubt, been partly occasioned by the encroachments made on the river, by the erection of log wharves, warehouses, and other buildings.

It has, however, been a very sickly season generally through the country. Cases of high and dangerous Bilious Fever have originated in various situations; and some have died of the Yellow Fever as high as Ft. Stephens and Fort Claiborne, from 80 to 100 miles off Mobile; but I do not know that any case of the Yellow Fever has actually taken its rise in those places. During the worst period, six or eight deaths frequently occurred in a day at Mobile, and it is said that as many as thirteen have died in a single day. This is an astonishing number for a place whose population did not probably exceed nine hundred, especially when it is considered that one third of the stated inhabitants, at least, had left the place. Many, however, who have died, were transient people; and it is calculated by some that, including these, nearly as many must have died as are equal to one half of the regular population of the place.

As to the weather, I am told, (for I was in the north,) that in July and part of August, there were incessant rains. Since that time there has been a continued drought.

Some cases of Yellow Fever occurred in June. During the rains it was tolerably healthy; but, on the commencement of the dry weather, or soon after, the most serious period of the Malignant Fever began. About a month or five weeks ago, some light frosts took place, and, though they were not sufficient to kill even the ground vines, many people who had left Mobile, ventured back. Several were seized and died after a short sickness; others escaped in time. The Town is now pretty full; but I am told that few days pass without one or two deaths taking place.

The weather, indeed, is excessively warm: my thermometer, 40 miles above Mobile, has within the last week or 10 days, been frequently from 80 to 84, in a large room, sheltered by piazzas, on each side, from the sun, and the doors of which are large, and always open. Nay, it has been from 70 to 74 even before sun rise, when hung out of doors. I have had a severe and dangerous attack, but am now recovering.

I am, Dear Sir,

Very respectfully,

Your most obedient Servant.

H. TOULMIN

the medical points, on which the great question relative to the origin of this disease hangs, and as you are aware that *this City has lately suffered severely from it*, you need not wonder that our interest on the subject, as a community, should be excited in an unusual degree. *The desolating effects of this dreadful calamity have been most severely felt in the part of the City in which I reside*; and although it has pleased *Heaven* to protect me unhurt, *I have lost a student, an assistant physician* and some of my best friends, and have had my own family to suffer from the disease. Consequently as an individual, perhaps my concern for our future safety is more acute than that of the public.

Notwithstanding this disease never became general *in this City*, this has been the *most extensive and mortal Fever* experienced by us since the year 1800.

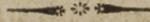
The question whether or not this Fever is contagious has been revived, and is warmly discussed in this and other places. Conceiving it to be a duty which I owe to society, and being called upon by our constituted authorities to give my opinion on the subject, I am making some exertions to show, that the disease is indigenous to our country, and has been originated and propagated here, by the miasma generated of necessity, from the immense quantities of pine cord wood, which I have *lately discovered have been used long since* for filling up water lots, wharves, &c. And I find from your letter that the state of the wharves, &c. at Mobile is so similar to that of ours, that it will be highly important to have this circumstance authenticated and the consequences compared. Having no medical acquaintance there, I have taken the liberty to write to you for information. (although a stranger,) and have nothing but the occasion to offer as an excuse. With this view therefore I beg leave to ask of you, 1st, a more particular account than the letter alluded to contains, of the construction of the wharves, and other wooden works, which are in a wet or moist state at Mobile? 2d, The kind of wood of which they consist, and whether or not it is wholly covered with earth and water? 3d, The condition and motion of the water about the wharves, &c. particularly as regards any change which may have taken place in its color? 4th, The extreme and medium heat of the season, as well in the interior as at Mobile? 5th, The general course of the winds? 6th, The point of the origin of the Fever, and the extent of its progress, as respects distance? 7th, A more explicit account of the effect which the rains had on the spreading of the disease, with your ideas respecting their influence? 8th, The period at which the Fever proved fatal, when it terminated in that way? 9th, Any or all of the most striking symptoms, such as hæmorrhage, black vomit, bloody or black urine, dark stools, &c. the type of the

disease? But above all, if cases originated in the vicinity of mill-dams, low marshes, or elsewhere, in the interior of the country, at the distance which you have hinted at, or any other distance from town?

To receive a communication from you, or, any medical friend, in answer to the above queries, and containing any other interesting matter on the subject will, *while it serves the cause of afflicted man*, place me under lasting obligations.

Your humble  
and most obedient servant,  
A. CLENDINEN.

Harry Toulmin, Esq.



FORT STODDART, (Alabama,) May 12th, 1820.

DEAR SIR,

I think that your letter of December 25th, was two months on its way to this place: and when it did arrive, I was extremely ill.

Since my recovery, I have been too negligent in replying to it, and I ask your pardon.

I wish it may be in my power to throw any light on the object of your researches.

1. You request a more particular account of the construction of the wharves, &c.

The western arm of the Mobile river, on the west side of which the town is situated, is very shallow at some distance from the shore: and the lots which run back from the Main street are so low and flat, that it was usual, before improvements took place, for the water to cover a considerable part of the eastern ends of them at high tide, especially when the wind came from the south. In Spanish times these ends of the lots were unoccupied.

Under the Spanish government, there was but one wharf. It was a mere platform, extending a considerable distance into the water, (which however was for several poles, I think, too shallow for a loaded parogue.) This platform was supported by posts, drove into the bed of the river, so that it afforded no obstruction to the free circulation either of water or of air. I believe

that the town was first settled or established, between sixty or seventy years ago.

I have been acquainted with it about fifteen years. I never heard of a case of the Yellow Fever, till within two or three years: and I am not satisfied that any existed till the last year. Indeed as we made no *improvements* when we took possession of the place in the year 1813, nor for some time after, the place agreed as well I believe with the constitutions of Republicans, as with those of the subjects of his Catholic majesty.

A considerable and substantial wharf was commenced four or five years ago. It was constructed by building walls of logs, all of pine timber, as you would build a log house, and filling up the space between the walls, with pine logs, pine tops, &c. covered over with a thin layer of sand and dirt. Several wharves have since been constructed on nearly the same plan. But not only so, stores, warehouses, and even dwelling houses have encroached upon the bed of the river, or upon that kind of low ground which may be said to belong alternately to the sea and to the land. Where they have been erected in places generally covered by the water, they stand frequently on blocks: but where the water has been used to come only occasionally, there is a greater appearance of solidity, but not such as to exclude stagnant water, brought by the tide or the rain.

Indeed there are no materials very convenient to Mobile, but pine timber and pine tops, sand and dirt.

2. Your enquiry whether the wood of which the wharves are constructed be covered in part or entirely by water or by earth, is already answered in substance. The wharves were so constructed as to be above the water at its usual state: but I conceive that no great body of earth covered the logs, of which they were composed.

3. As to the condition of the water, with regard to mobility and colour, I can speak only generally. The current of the river is naturally gentle. Though the water may be extremely high thirty or forty miles above; it is scarcely known to rise by rain at Mobile. The wind regulates the state of the river there, more than the tide, or the freshes in the upper country. Wharves stretching out from the firm land to the channel for ships, must render the water in a high degree stagnant. As to its colour; I have made no remarks, but I am told it is very dark during the heat of summer.

4. You wish to be informed of the medium and extreme heat in Mobile and in the interior. Nothing is more delusive than ther-

metrical reports, unless a very minute description be given of the situation in which the thermometer is hung. Some years ago I remarked that my thermometer and Col. Bowyer's of the 2d regiment, who then lived near me, would vary eighteen degrees, our distance from each being little more than a quarter of a mile\*: and if a thermometer be hung even under the shade of a tree; its height will be governed in a great degree, of course, by the relative situation of the tree, as to the other trees, and the presence or absence of verdure on the circumjacent earth. The room in which my thermometer is usually hung is between four and five feet above the surface of the earth, twenty feet square, with a piazza or gallery eight feet wide, fronting the north east, and another, which is twelve feet wide, fronting the south west. There are other rooms at each end. In this situation the quicksilver has never risen higher than  $94^{\circ}$ . It is very rarely, if at all, in the course of the summer higher than  $93^{\circ}$ , and it is only for a short period that it is as high as that. I do not think that there is any material difference in the heat of the atmosphere, between my place of residence and Mobile (which is about half a degree farther south) except what may arise from the circumstance of the latter being an open town, and the former in a timbered country. But though the thermometer in a shaded situation does not rise so high in this country, as would naturally be expected by a person residing in a northern country; yet so very great is the difference here between the heat in the shade and that in the sun, that miasma must be generated by the direct action of the sun, to a much greater extent, than ordinary thermometrical observations, would induce one to calculate upon. I have no memoranda made in the summer, to shew this difference, which I can now put my hand upon: but there is one which I made on the 25th of last month, a very warm day, when the thermometer in the room I have mentioned was at  $84^{\circ}$ , but being hung on the side of the house (a weather boarded frame house) facing the south west, it rose in a very short time to  $119^{\circ}$ .

To-day at 3 o'clock, (P. M.) being hung in the same situations, it is at  $79^{\circ}$  in the shade and at  $116^{\circ}$  in the sun. I ought to remark, that during the last three days and nights, we have had heavy showers of rain, so that the earth seems pretty well saturated: but it has cleared off, and the sun is not obstructed by the clouds.

5. As to the general course of the winds; the south and south west winds are usually most prevalent in the summer season. They are certainly the most healthy winds. Sometimes, however, the wind

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\* See an additional remark at the end of this letter.

will be from the north or north east for several days in succession. This I believe is always attended with unfavourable effects on the body, as well in the country as in the town.

These winds, indeed, pass over extensive marshes on their way to Mobile: but they are pernicious in other situations. They check perspiration, whilst the sun is generally, during their prevalence, very clear and fervent. Hence the weather seems hotter to the animal frame: but the thermometer, hung in the house, is really lower, than when the wind is south.

6. You request me to state the point of origin of the Yellow Fever, and extent of progress as it respects distance. I have always understood that it commenced and more generally prevailed near the wharves and river, than in any other situation. It finally extended however to the back parts of the town.

On this subject you will meet with minute and valuable information in the able "Report of the Committee," which accompanies this letter.\* Several cases occurred of persons carrying the Fever into the country: but I have not heard that in any instance it was communicated to others.

7. On the subject of the effect of rain on the disease; I conceive that it must depend a great deal upon local circumstances.

I believe that, generally speaking, frequent showers are favourable to health in this climate: but where it falls in situations which will not admit of it running off, and in quantities too great to be quickly absorbed by the earth, and, coming in contact with vegetable matter, is slowly evaporated by the sun, I think, that rainy seasons in the summer, have usually been found prejudicial to those residing in the vicinity of such situations. The committee have reported fully its views of its operation in Mobile.

8. As to the period at which the disease terminated fatally; I am told that it was usually in from three to five days: though some died on the first, and others continued till the seventh.

9. You request me to mention any or all of the most striking symptoms, such as hæmorrhages, black vomit, bloody or black urine, dark stools, and the type of the disease.

The type was Remitting, and all the symptoms enumerated, were met with.

The two last questions I have answered on the authority of a Physician, who though not residing in the place, has had sufficient

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\* See Page 200.

opportunities of making himself acquainted with the symptoms, and who attended some patients who brought the Fever from Mobile, up into the country.

10. Above all you enquire whether or not cases originated in the vicinity of mill-dams, low marshes, or elsewhere in the interior?

There are no mill-dams so near to Mobile that their influence can have any effect, as I conceive, on the health of that place. On the other hand, there are mill-dams within from three to eight miles of Mobile, but I have not heard of any instance of the Yellow Fever having occurred in the vicinity of them.

There were many cases, however, of a very high Bilious Fever, which proved fatal to several persons, at a small town called Jackson, on the Tombigby, about eighty miles above Mobile. Jackson is on high ground, but is adjacent to extensive swamps (or river bottoms) and within the influence, as I am informed, of a very large mill-pond.

Many persons died out of Mobile of the Fever contracted there. I was at Mobile, holding the Superior Court for that county, about this time last year. On walking down to the new buildings near the river and to the new streets, I may say, which have been made almost in the bed of the river; I was struck very much with the smell, which even at that time arose from these new streets, and predicted confidently that the Yellow Fever would make its appearance in the course of the summer. Circumstances unknown at that time, and which are detailed by the committee, tended to verify the prediction. Great exertions are now making by the Corporation, and exorbitant taxes paid by the inhabitants to render the place more healthful: but I fear that there is more to be done, than can be done before the period of danger returns.

A case apparently of Yellow Fever, occurred even in March last. A man of the name of Bryan, lately from Ireland, was employed to make a ditch in a piece of marshy land on the Mobile river, about a mile above the town.

During his sickness he complained, that when he first took off the outward crust of the earth, where he was about to make a ditch; he was much affected by a very disagreeable effluvia, which arose from the broken earth. He felt unwell immediately, but it was two or three days before he became seriously ill. The weather had been previously very hot: and he had moreover been caught in the rain. After he had been ill two or three days, his symptoms were, excessive vomiting and hiccup, subsultus, the skin uncommonly yellow, hæmorrhage from the eyes and ears, discharges like coffee grounds, and what he puked up was of the

same description, pains in the head, eyes, neck and back, and costiveness, which could not be removed till an injection was made use of. He took a dram of calomel every two hours, without its producing the least effect! The hiccup could not be stopped, and he had a great distress about the heart. He died about the fifth day from the time when he was taken. These circumstances were narrated to me by a Physician of great skill, who happened to be in Mobile when the unfortunate man was taken, attended him in his sickness, and has no doubt but that it was a clear case of Yellow Fever. I have not heard that any other case has occurred this year.

I believe, Sir, that I have now replied as far as my knowledge extended to all your enquiries, sufficiently copiously and I fear rather tediously: and had I looked over all the report of the committee when I sat down to write this letter; I might probably without any loss to you, have abridged this communication. Independent statements however of the same facts, when they agree in the main, add to their credibility, and a concurrence in mere *opinions* connected with those facts, affords some presumption that the opinions have *grown out of* the facts.

I was not aware that a short letter which I wrote to Mr. Meigs, of the General Land Office, relating to the Fever at Mobile, had been published, till I heard it from you: and even now I have not the paper at hand to examine whether any thing in that statement may require correction.

I am dear Sir, very respectfully  
Your most obedient servant,

Dr. A. Clendinen.

HARRY TOULMIN.

P. S. I have spoken of the difference in the heat at the house of my friend and neighbour (Col. Bowyer) and my own. I would observe that my house was pretty well surrounded by *verdure*—his was open to the *parade* where the soldiers were exercised and which was regularly *swept*: mine was also somewhat more elevated from the ground than his, and was a story and a half high where the thermometer hung. His was only one story high, and had galleries as well as mine: but his sitting room, I think, was open to the roof. These circumstances account for the difference in the state of our thermometers

Perhaps it is not immaterial to remark, that the tube of my thermometer is on a wooden and not on a metal frame, as the latter I supposed would make the difference between the *sun* and the *shade* greater than it really is.

## REPORT OF THE COMMITTEE

*Appointed to investigate the causes and extent of the late extraordinary Sickness and Mortality in the Town of Mobile.*



*The committee appointed to investigate the causes, and extent of the late extraordinary sickness and mortality in this Town.*

### REPORT;

That they have carefully attended to the duties assigned them, and have examined all the Wharves, the Docks, and Vessels, the buildings and Lots near the River, as well as in other parts of the Town, and find in their examination numerous local causes, which under the co-operating influence of the late season, might, in their opinion, have produced the Fever, independent of the supposition of its Foreign Importation.

Some of the most prominent we will mention; and first, the condition of the Wharves, built with hewn Timber, closely laid, confining the water within the outward dimensions of the wharves, and filled up with rotten logs, bushes, shavings, and other vegetable matter, covered lightly with swamp mud or earth, presenting to view an immense mass, in the most noxious state of decay. Two of these wharves, about 450 feet in length, and 30 to 40 in breadth were commenced in the spring, and the work of filling them up with logs, mud and bushes, was carried on during the Summer, till the storm on the 28th July, and the sickness of the workmen put a stop to it. They were, however, nearly filled up to the length and breadth mentioned, and to the depth of 4 to 10 feet, and the surface of about a third part covered with pieces of wood, cut in convenient sizes for the purpose, and marsh mud.—When the committee viewed these wharves, the sight was most disgusting and the smell so offensive, that they felt their health endangered by delaying about them.

The other wharves, five in number, also deserve more particular notice. Three of them appear to be made upon the same plan of the former, and with like materials, two are partly built upon piers, giving a more wholesome circulation to the water. One was built during the spring and summer, but chiefly destroyed by the storm of July, the others from one to four years since, each of them, affording a mass of decaying vegetable matter, from 200 to 400 feet in length, 25 to 30 in breadth, and 3 to 10 in depth, co-

vered with a thin layer of earth, or mud. Such a quantity of noxious materials collected together, in a state of decay, must necessarily produce miasmata, and mortal disease.

Water street is also observed to be filled up with the same kind, of materials, in many places to the depth of from four to six feet, and computed together might afford a mass of such matter, several hundred feet in length, and fifty in breadth, thinly covered with earth. The Lots adjoining this Street, on one side, are found to have been chiefly filled up with rotten logs, green pine sapplings, and pine tops, with a thin layer of earth, and might comprise more than an acre of ground, thus filled from one to two feet; and on the water side, the docks are observed to have been much clogged up with timber, drift logs and old Boats, which during the low summer Tides, and North wind, collected together in the docks, great quantities of sea-weed, and other filthy matter, in a state of decay, particularly under the stores standing over the water. The prevalent North wind, and low tide, during the months of September and October, left the docks, and a large extent of marsh mud about them, exposed to the heat of the Sun, and the water, variously obstructed about the docks and wharves, became itself stagnant and offensive.

The committee also observe that many old Boats, or Barges, damaged during the storm on the 28th July, were suffered to remain filled with water, as well as the schr's. Sally and Piper, at the wharves South of the Fort, during the months of August, September and October, even to the time the committee visited them. The water in these Boats and Vessels, we scarcely need to add, was in a most putrid and offensive state. Several Lots upon Water Street were suffered to remain covered with stagnant water, filled up with old rotten logs, old casks, bushes, and in short seem to have been receptacles for refuse and offal substances of every kind.

The badly constructed foundations of the stores and buildings near the river, retaining beneath them much unwholesome matter, or stagnant water, affecting the Inhabitants with their deleterious damps and effluvia, must have proved a fertile source of disease, under the influence of the late season.

To these causes we must add, the general condition of the back yards, and enclosures in the Town. All the prudential measures of an effective Police seem to have been totally abandoned, and the committee are compelled to say, that every part of the Town presented a striking proof of the extreme neglect of a large portion of our citizens to the ordinary duty they owe themselves and their neighbours—that of keeping their yards and possessions, clear from every species of filth, which may be injurious to health. Ponds of water in various parts of the Town were suffered to re-

main, undrained after the rains, and became stagnant, thus affecting the air with poisonous exhalations. Dead animals, heaps of oyster-shells, and other offensive matters, were commonly observed through the Town. Weeds were cut down and suffered to decay without removal. A store upon one of the new wharves contained a large quantity of Hides during the months of August and September, and the greater part of October, in a most offensive state. Such an outrage against the health of the Inhabitants is scarcely credible.

In this general state of the Town, succeeding the violent Hurricane of the 25th and 29th of July, from the S. and S. E. which raised the water to an uncommon height, overflowing all the wharves, and the foundations of the buildings on Water Street, even to the height of several inches in many store rooms; leaving, as the water subsided, a vast quantity of logs, drift wood, seaweed and other vegetable matter in the streets and lots, much of which were suffered to decay and infect the air. The docks were clogged up with like materials, and damaged Barges and Vessels. No attention whatever seems to have been paid to cleaning the dock, after the storm, to give a free circulation to the water, too much confined before by the mode of building Wharves.

The committee feel much regret that they are compelled, in discharge of the duty assigned them, to present such a view of the Town anterior to and immediately after, the storm in July; but the facts were obvious to all, whether citizens or strangers, and evince an almost unparalleled indifference in regard to our own health. In such a state of our Town, the most strenuous advocates for Foreign importation of the Yellow Fever, will surely admit that there existed abundant cause for less malignant fever.

But we have to add to the causes enumerated, the potent influence of a most unprecedented season. The late winter was generally moderate, very dry and less severe than usual. The rivers Alabama, and Tombecbe scarcely reached the height of their banks; during the winter not more than half the usual quantity of rain fell. The spring was cool and chilly; in March a severe frost which killed the early Garden Beans, Corn and other tender plants.—April, May and the early part of June, afforded light falls of rain, very seasonable for vegetation: winds generally South and S. West, June and July uniformly hot—greatest heat 92 degrees. The storm of July 28, terminated a long drought, and deluged the whole country around; all the lesser rivers and creeks overflowed their banks to the height of winter floods. From the 29th of July to the 11th of September, it rained without a day's intermission: and often descended in torrents. All the neighbouring swamps, and low grounds about the Town were filled with water to a height unexampled at that season of the year. The sun at times burst forth with sultry, suffocating heat. The

brick walls, houses, furniture, books and clothing, all became mouldy, and the latter required frequent sunning to preserve them from destruction.

On the evening of the 10th September, it cleared off, wind N. W. with hot sun, and so continued for 66 days, to November 16, the wind varying from N. W. to N. and N. E.—during the whole of this period, there was scarcely rain sufficient to lay the dust in the streets: in November, however, the wind was occasionally S. and S. W.—The effect of such an unexampled series of weather, such an excessive drought following a flood of rain, in the month of August, with the influence of the combined causes aforementioned, upon the human constitution, as exhibited in this Town, the committee will carefully relate. During the previous winter, spring and summer to the first of July, the Town was healthy, and no unusual sickness appeared. In the latter part of July a number of violent cases of Bilious Fever occurred among persons unaccustomed to the climate, and some of a more questionable character. several persons employed as workmen, in filling up one of the new wharves, were taken violently ill, and died after a short illness of two or three days. About the same time two persons, usually employed about Dauphin Street wharf, were taken in like manner, and died after a short illness. A number of Carpenters, and Sailors, employed about the wharf South of the Fort, and were much on board the schooner Sally, filled with stagnant water, and the Steam Saw Mill, where there was a pond of like offensive water, were taken with violent fevers and several of them died; But as the Physicians who attended all the persons alluded to, are dead, the particular symptoms of the fever cannot be well ascertained. It is, however, known that Dr. Lawton, one of the attending Physicians, spoke of these cases, as Malignant Fever. Soon after these cases occurred, Snyder, an Engineer, at work on a Steam Boat, at the same wharf, died with violent symptoms of fever, after an illness of five days. Plank who attended Snyder, and was employed at the same place, and a Dutch servant boy, who lived at the house where Snyder died, were a few days after taken with like symptoms of fever, and died on the third or fourth day. All these cases, were, by the attending Physicians (now dead) declared cases of Yellow Fever, and it is in evidence to the committee that they died with *black vomit*. Snyder died on the 7th August, and Plank on the 9th, several other cases of like fever occurred about the same time among the workmen, at one of the new wharves, and terminated fatally, after a short illness. At the two wharves mentioned, the unequivocal cases of the Yellow Fever, made their appearance, and about the same time, other cases occurred, which terminated fatally, with persons usually about the stores, near the wharves and river, about the same period. A young man of the name of

Carson, died on the 26th of August, after an illness of forty-eight hours, with unequivocal symptoms of Yellow Fever, he occupied a store near the river, and the wharves. Ellsworth died on the 5th September, after an illness of forty-eight hours, and seventeen days after the arrival of the Sloop Patriot from Havanna, in which he came passenger from that place. He also occupied a store near the river and wharves.

But as there are persons who strenuously maintain an opinion, that the Fever was imported into this town from the Havanna, in the above named vessel, the committee have given the subject diligent attention, and have examined a number of persons, and taken their examination in writing, particularly the officer of the customs, who first visited the vessel, and a sailor, who was on board the vessel during the voyage. The vessel arrived at the wharf, direct from sea, on the 19th of August, after a passage of fifteen days from Havanna. The officer states that "he was the first person on board the Patriot after her arrival—that he examined her cabin, hold and cargo—that the cabin and hold of the vessel appeared, from any thing he could discover, in a pure and wholesome state. Sixteen bags of coffee, however, were wet and considerably damaged, and some fruit rotten; the rest of the cargo in good order—that he attended the unloading of the cargo three days: the master, passengers and crew appeared to be in good health, excepting Graham, a seaman, and the cook, who appeared to have had a fever—Graham was able to do duty on board—the cook not much unwell—that the vessels which arrived at Mobile during the months of June, July, and August were generally healthy—no vessel except the Patriot arrived from a West India port. The schooner M'Donough arrived the 17th of July from Nassau, N. P." He further states that "he took care of Snyder and Plank during their illness, and assisted in burying them—that the attending Physicians, Lawton and Robinson, pronounced their disease *Yellow Fever*, both before and after their deaths—that they both died with *black vomit* on the third or fourth day.

Graham, the seaman, states that "he shipped on board said sloop at New Orleans, and was on board when she sailed from Mobile—nine persons were on board outward, four of which were passengers, one passenger died at Havanna three days after he arrived—had seven passengers on board when the vessel left Havanna—no person unwell when they left there, or during the voyage, excepting the cook and himself—the cook was sick all the time he was on board—was himself sick at Havanna and went on board unwell—thinks he had not a Malignant Fever—took no medicine, had none on board—and that the passengers knew his situation when he came on board.

From the most diligent enquiry in regard to the state of the town, and the cases of fever, which had existed before the arrival of the Patriot, the condition of that vessel, the passengers and crew, as well as the vessels which arrived from New Orleans, and elsewhere, the committee are constrained to express their decided conviction, that the Malignant Fever, which so recently afflicted our town, originated in the numerous causes they have mentioned, favoured by the destructive effects of the storm and subsequent season. The effects of the change of weather on the 10th of September, were very obvious to all. In a few days after the wind changed to the northward, with a clear sky and hot sun, the Fever made its appearance in different parts of the town in all its fearful, deadly type. On the 16th, 17th and 18th, *thirty* persons are reported to have died. Alarm spread through the town, and those who could, conveniently, left it. Many, however, remained, and those of the poorer class of people, who either lived in small crowded, filthy dwellings, or even without any, frequenting the grog shops near the wharves, lodging under the market house, or other places exposed to the damps and vapours of the night. In addition to these circumstances, many of them were intemperate. Among this class of people, which embraces nearly all those who arrived in town from the public works on Mobile bay, the Fever was observed to be dreadfully mortal—almost all of them died. Of more than a hundred discharged at those works, who came to Mobile, it is believed that very few are alive. At certain places in town, there was a continual succession of these people arriving and passing to the grave. Regardless, through intemperance, of all the usual cautions for the preservation of health—[they were often crowded into rooms with the dying and the dead, till they became themselves the victims of their temerity. We cannot doubt that this class of people greatly increased and spread the disease.\* The old clothes, bedding, and such like articles, belonging to them were, after their death, thrown into the streets, or back yards, and there suffered to remain to infect the air with their poisonous effluvia.]

The want of proper attention, nursing and nourishment, to the sick (which could by no means be had) was a cause, ever to be lamented, of the great mortality attending this disease.

Medical aid, also, was often neglected till the disease had made a mortal progress beyond the power of medicine. In many cases medical aid could not be obtained when desired. Several of the Physicians themselves were sick, and the others unable to attend the numerous calls for their assistance—hence, many perished without medicine, or Physician.

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\* This paragraph is so much at variance with the general tenor of this report as to require no comment.

The building used for a hospital for the poor was in the centre of the town, and probably contributed to spread wider the disease, and increase its malignity. *Fear* in many instances was observed to produce most unfortunate effects upon the patient, and defeated its intended operation of medicine—Some, in dreadful apprehension of the disease, seemed to abandon hope of life, and sunk into death.

With all these causes for the increased prevalence and mortality of the Fever, it plainly exhibited in its progress and various symptoms, the most malignant character. The number of those, who recovered from an attack, between the 15th of September, and 10th October, the period of its greatest prevalence, was small; though the number cannot be ascertained. After the latter period, as cooler weather advanced, the disease assumed a milder character, and more frequently yielded to the powers of medicine.

In its Type and Symptoms it seems to have exhibited no peculiar characteristic marks or effects to distinguish it from the Yellow Fever of other seasons and places, as described by Physicians; unless it be the greater mortality which attended it, and that is believed to be justly attributed to the causes already mentioned. Patients died commonly in one, three, or five days after taken, with all the symptoms of decided Yellow Fever. In the character of the disease, all the Physicians agreed, but different methods of treating were practised.

The committee find difficulty in ascertaining "the extent of the sickness and mortality" with arithmetical exactness; although four of their number were continually in town, during the prevalence of the Fever, and two others a considerable proportion of the time. For a while the disease seemed to be mostly confined to those employed about the river and wharves, but in a few days after the prevalence of the north wind, and clear, hot sun (September 10th,) it spread rapidly through the whole town, and from that date seems to have affected the Creole inhabitants, people of color, and even slaves. It is also noticed to have been equally mortal with the female, as the male population; though the former might be supposed less exposed to the influence of the general causes of the disease, but they were, perhaps, oftentimes more exposed to the Fever in their immediate attendance on the sick. The number of deaths from the 1st August to the 10th September, embracing every description of people, was estimated by the Physician, who attended the Hospital, and the greatest number of the poor, and was probably better informed on the subject than any other person, at an average of 1 a day—40 souls. This may be nearly correct: and of this number it is ascertained that only nine were inhabitants of the town, or embraced in any estimate of the population. These persons are known to have died of various diseases incident to the climate, excepting 5 or 6—who are sup-

posed to have died of Yellow Fever. After the above period, the Fevers assumed the predominant type and spread death and dismay. From the 10th September to the termination of the Fever in November, 113 died, (four not of Fever;) making the number of our inhabitants, who probably died of the Malignant Fever 115. From July 4th, to December 1st, the total numbers of death, including those who died out of town, and those who died by casualties, was 137. The number of boatmen, sailors, workmen discharged from the public works, and transient persons, who died at Mobile, during the latter period named, is supposed, from the best information that can be obtained, to have equalled that of the inhabitants, giving a total of 274.

But to give an adequate idea of "the extent of the sickness and mortality," it seems necessary to notice the population of the town at different periods of its prevalence; and here we must necessarily resort to conjectural estimates. In the month of July, the resident population of the town is estimated at 1,300 souls, and on the 10th September, 800, which were, in a few days after the known prevalence of Yellow Fever, reduced to 500, and it is to be remarked that a considerable portion of these were in the suburbs of the town, where the Fever did not prevail.

But in a proportional view of the mortality to the population, exposed to the disease, the number of our citizens who died of other diseases antecedent to the prevalence of the Fever, boatmen; sailors, and other transient persons are to be deducted, which would shew the loss of our inhabitants by the recent Fever to be 115: and affords a proof of its dreadful malignity.

It was observed that the suburbs of the town, at no greater distance than one mile from the river, were as healthy, during the prevalence of the Fever, as more distant parts of the country; and it is not known that the disease was communicated, in any instance, to persons out of the town, by the removal and attendance of the sick. Hence we infer that the disease is only communicable in the atmosphere where it originated; and even there, some pre-disposing causes appear to have been necessarily existing, as a number of persons frequently in the room with the sick, the dying and the dead, in circumstances of the greatest exposure, never took the Fever.

Some remarks on the general state of the country around, in regard to sickness or health, being intimately connected with this subject, as influenced by general and common causes, may not be deemed improper. At New-Orleans, Baton-Rough, Natchez, and perhaps, generally upon the Mississippi, as high as the latter place, the same species of Fever seems to have prevailed with great mortality. Natchez and New-Orleans, it is understood have suffered beyond any former example; and in fact, almost all our

Cities upon the sea coast, from Maine to Louisiana, appear to have suffered in a greater or less degree from the same species of Fever; though they were favored by a long established and well regulated Police.

In the interior of the country, upon the waters of the Tombeckbe and Alabama, the sickness and mortality was far greater than was ever known before. At Ft. Stephens, Jackson, Fort Claiborne, and other places on those rivers, Bilious Fevers, of the worst grade prevailed; and in many instances we are warranted in saying, that in type and symptoms it differed little from the Fever, which prevailed in this town.

The season has been a very uncommon one, and has produced as uncommon effects; and wherever it has operated upon local causes, it appears to have produced Malignant Fevers. In the town of Mobile, art and labor could scarcely have combined a more destructive mass, for the production of Malignant Fever, under the operation of such a season, than is found to have been laboriously collected together in filling up lots, streets and wharves: and the committee would do injustice to their own feelings, and their sense of the duty they owe their fellow-citizens, were they to suppress a warning voice of the danger that awaits them: If they be not zealous and active in the removal of the numerous causes of disease, daily trodden under their feet, daily presented to their view, while they walk the streets, disease will assail them in every quarter. While they slumber in their bed, they will breathe the poison of death, 'till the yards and enclosures are cleansed—'till the streets and wharves are radically reformed; and then, by the blessing of God, we shall prosper in Health.

Signed by

Dr. JACOB LUDLOW,  
DAVID RUST,  
H. V. CHAMBERLAIN,  
ADDIN LEWIS,

Dr. — MAJOR,  
EDWARD HALL,  
and  
PHILIP M'LOSKEY,

☞ In order that each fact and argument relating to the subject of this volume might have its proper weight, as originally intended, no selection has been made from the matter presented for publication. Indeed had it been esteemed either wise, or desirable, to withhold any part of it from the public, such has been the arrangement that no one has felt himself authorized to do so. The charitable and scientific to whom the work is dedicated it is hoped, will readily excuse its imperfections, while they applaud the object, and deal fairly with its merits.

FINIS.

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