

[Proofs of the origin of yellow fever, in Philadelphia & Kensington, in the year 1797, from domestic exhalation, and from the foul air of the snow Navigation, from Marseilles, and from that of the ship Huldah, from Hamburgh : in two letters, addressed to the Governor of the Commonwealth of Pennsylvania / by the Academy of Medicine of Philadelphia].

Contributors

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ACADEMY OF MEDICINE
OF PHILADELPHIA

Proofs of the origin
of the
Yellow Fever
in Philadelphia & Kensington
in the year 1797.

PHILADELPHIA
Printed by T. & S. F. Bradford
1798

ACADEMY OF MEDICINE
OF PHILADELPHIA



Proofs of the origin

of the

Yellow Fever

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in the year 1797.

PHILADELPHIA

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PROOFS
OF THE
Origin of the Yellow Fever,
IN PHILADELPHIA, &c.

*Letter from THOMAS MIFFLIN, Esq. Governor of
the State of Pennsylvania, to Dr. BENJAMIN RUSH.*

Philadelphia, 6th November, 1797.

SIR

I AM desirous to obtain, for the information of the Legislature, the most correct account of the origin, progress, and nature of the disease that has recently afflicted the city of Philadelphia, with a view that the most efficacious steps should be taken to prevent a recurrence of so dreadful a calamity. I have requested the opinion of the College of Physicians on the subject; but, as I understand that you and many other learned members of the Faculty do not attend the deliberations of that institution, the result of my enquiries cannot be perfectly satisfactory without your co-operation and assistance. Permit me, therefore, Sir, to beg the favour of you, and of such of your Brethren as you shall be pleased to consult, to state, in

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answer to this letter, the opinion which your researches and experience have enabled you to form on the important object of the present investigation.

I am, respectfully, Sir,

Your most obedient,

Humble Servant,

THOMAS MIFFLIN.

Dr. BENJAMIN RUSH.

Answer to the foregoing.

SIR,

IN compliance with your request, the subscribers have devoted themselves to the investigation of the origin, progress and nature of the fever which lately prevailed in our city, and we have now the honor of communicating to you the result of our enquiries and observations.

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table { We conceive the fever which has 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.

Our reasons for this opinion are as follows :

ing { I. The sameness of their origin ; both being the offspring of putrefaction. Of this there are many proofs in the histories of the yellow fever in the West-Indies. Where there is no putrefaction, the West-

India islands enjoy a perfect exemption from that disease in common with northern climates.

II. The yellow fever makes its appearance in those months chiefly in which the bilious fever prevails in our country, and is uniformly checked and destroyed by the same causes, *viz.* heavy rains and frosts. } *wro*

III. The symptoms of the bilious and yellow fever are the same in their nature. They differ only in their degree. It is no objection to this assertion that there is sometimes a deficiency or absence of bile in the yellow fever. This symptom is the effect only of a torpid state of the liver, produced by the greater force of the disease acting upon that part of the body. By means of depleting remedies this torpor is removed and the disease thereby made to assume its original and simple bilious character.

IV. The common bilious and yellow fever often run into each other. By depleting remedies the most malignant yellow fever may be changed into a common bilious fever and by tonic remedies, improperly applied, the common bilious fever may be made to assume the symptoms of the most malignant yellow fever.

V. The common bilious and yellow fevers are alike contagious, under certain circumstances of the weather and of pre-disposition in the body. That the common bilious fever is contagious, we assert from the observati- } *wro*

ons of some of us, and from the authority of many Physicians, who have long commanded the highest respect in medicine.

VI. The yellow and mild bilious fevers mutually propagate each other. We conceive a belief in the unity of these two states of fever, to be deeply interesting to humanity, inasmuch as it may lead patients to an early application for medical aid, and Physicians to the use of the same remedies for each of them, varying those remedies only according to the force of the disorder. It is no objection to this opinion, that that state of bilious fever called the yellow fever, is a *modern* appearance in our country. From certain revolutions in the atmosphere as yet observed only, but not accounted for by Physicians, diseases have in all ages and countries alternately risen and fallen in their force and danger. At present a constitution of the atmosphere prevails in the United States which disposes to fever of a highly inflammatory character. It began in the year 1793. Its duration in other countries has been from one to fifty years. It is not peculiar to the common bilious fever to have put on more inflammatory symptoms than in former years. There is scarcely a disease which has not been affected in a similar way by the late change in our atmosphere, and that does not call for a greater force of depleting remedies than were required to cure them before the year 1793.

VII. And LASTLY. The yellow fever affects the system more than once, in common with the bilious

fever. Of this there were many instances during the prevalence of our late epidemic.

The fever which lately prevailed in our city appears from the documents which accompany this letter to have been derived from the following sources.

I. Putrid exhalations from the gutters, streets, ponds and marshy grounds in the neighbourhood of the city. From some one of these sources we derive a case attended by Dr. Caldwell on the 9th of June—one attended by Dr. Pascalis on the 22d July, and two cases attended by Dr. Rush and Dr. Physic on the 5th and 15th of the same month; and also most of those cases of yellow fever, which appeared in the northern parts of the city, and near Kensington bridge, in the months of August, September and October. We are the more satisfied of the truth of this source of the fever, from the numerous accounts we have received of the prevalence of the same fever, and from the same causes, during the late autumn in New York, and in various parts of New-Jersey, Pennsylvania, Maryland, Virginia and South Carolina, not only in sea ports, but inland towns. The peculiar disposition of these exhalations to produce disease and death, was evinced early in the season by the mortality which prevailed among the cats, and during every part of the season, by the mortality which prevailed in many parts of our country among horses. The disease which proved so fatal to the latter animals, is known among the farmers by the name of

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the *Yellow Water*. We conceive it to be a modification of the yellow fever.

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II. A second source of our late fever appears to have been derived from the noxious air emitted from the hold of the snow Navigation, capt. Linstroom, which arrived with a healthy crew from Marseilles on the 25th of July, and discharged her cargo at Latimer's wharf after a passage of eighty days. We are led to ascribe the principal part of the disease which prevailed in the south end of the city to this noxious air, and that for the following reasons.

1. The fever appeared first on board this vessel and in its neighbourhood, affecting a great number of persons nearly at the same time, and so remote from each other that it could not be propagated by contagion.

2. There was in the hold of this vessel a quantity of vegetable matters, such as prunes, almonds, olives, capers, and several other articles, some of which were in a state of putrefaction.

3. A most offensive smell was emitted from this vessel, after she had discharged her cargo, which was perceived by persons several hundred feet from the wharf where she was moored.

4. A similar fever has been produced from similar causes, in a variety of instances: we shall briefly mention a few of them.

no occasion to look for another

since they had the fever both before

that vessel was not at all the other

place.

great No of Cases of this fever than since
we could attribute it to any Contagion
Infectious Cause nor ever saw it infect

At Tortola, a fever was produced in the month of
June, in the year 1787, on board the ship Britannia,
capt. James Welch, from the noxious air generated
from a few bushels of potatoes, which destroyed the
captain, mate and most of the crew, in a few days.

Two failors were affected with a malignant fever,
on board the —, capt. Thomas Egger, in the month
of March, 1797, from the noxious air produced by
wine that had putrified in the hold of the ship, one of
whom died soon after her arrival at Philadelphia.

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Wine

In the month of June, 1793, the Yellow Fever was
generated by the noxious air of some rotted bags of
pepper on board a French Indiaman, which was car-
ried into the port of Bridgetown, by the British letter
of marque Pilgrim. All the white men and most of
the negroes employed in removing this pepper, perished
with the Yellow Fever, and the foul atmosphere af-
fected the town, where it proved fatal to many of the
inhabitants.

to argue
about the
facts

On board the Busbridge Indiaman, a Yellow Fever
was produced in the month of May, 1792, on her
passage from England to Madrafs, which affected above
two hundred of the crew. It was supposed to be de-
rived from infection, but many circumstances concur
to make it probable that it was derived from noxious
air. The absence of smell in the air does not militate
against this opinion, for there are many proofs of the

most malignant fevers being brought on by airs which produced no impression on the sense of smelling. This is more frequently the case when the impure air has passed a considerable distance from its source, and becomes diluted with the purer air of the atmosphere.

Several cases are related by Dr. Lind, in his treatise upon fever and infection of the Yellow Fever, originating at sea under circumstances which forbade the suspicion of infection, and which can only be ascribed to the impure air generated from putrid vegetables.

So well known, and so generally admitted is this source of Yellow Fever in warm climates, that Dr. Shannon, a late writer upon the means of preventing the diseases of warm climates, in enumerating its various causes, expressly mentions "the putrid effluvia of a ship's hold."

We wish due attention to be paid to these facts, not only because they lead to the certain means of preventing one of the sources of this fever, but because they explain the reasons, why sailors are so often its first victims, and why from this circumstance the origin of the disease has been so hastily, but erroneously ascribed solely to importation.

The fever which prevailed along the shore of the Delaware, in Kensington, and which proved fatal to Mr. Joseph Bowers and two of his family, we believe

originated from the noxious air emitted from the hold of the ship *Huldah*, Capt. Wm. Warner. This air was generated by the putrefaction of coffee, which had remained there during her voyage from Philadelphia to *Hamburgh*, and back again. (a)

In the course of our enquiries, we were led to suspect one source of our late fever, to be of foreign origin. The sails of the armed ship *Hinde*, on board of which several persons had died of the Yellow Fever, on her passage from *Port au Prince*, and which arrived on the 4th of August, were sent to the sail store of Mr. *Moyse*. Four persons belonging to the loft were soon afterwards affected with symptoms of a bilious Yellow Fever. We shall not decide positively upon the origin of the fever in these cases; but the following facts render it probable that it was not derived from the persons who had died of it on board the suspected vessel.

1. The sails emitted an offensive smell; 2. three of the cases of the persons affected in the sail loft were of a mild grade of the fever; 3. the fever was not propagated by contagion from any one of them; 4. the sail loft was within the influence of the noxious air, which was emitted from the hold of the *snaw Navigation*, being not more than fifty yards, and was in the direction of the wind which blew at that time over her. The extent of this air has not been accurately ascertain-

(a) See appendix letter A.

ed, but many analogies give us reason to believe that it may be conveyed by the wind, in its deleterious state from half a mile, to a mile.

In support of the opinion we have delivered of the origin of our late fever, we must add further, that in that part of the city which lies between Walnut and Vine streets, and which appeared to be free from the effects of exhalation and the noxious air of the ships, there were but few cases of the fever which appeared to spread by contagion, even under the most favourable circumstances for that purpose.

Having pointed out the nature and origin of our late fever we hope we shall be excused in mentioning the means of preventing it in future. These are,

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out it being
sted from* FIRST, A continuance of the present laws for preventing the importation of the disease from the West-Indies, and other parts of the world where it usually prevails.

Indies they sh. look for it among themselves

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have
tagious* SECONDLY, Removing all those matters from our street, gutters, cellars, gardens, yards, stores, vaults, ponds, &c. which by putrefaction in warm weather afford the most frequent remote cause of the disease, in this country. For this purpose we recommend the appointment of a certain number of Physicians whose

ca among business it shall be to inspect all such places in the city, the Northern Liberties and Southwark, as contain any

*but have a health officer to inspect all Am
ment the disease being imported from the*

matters capable by putrefaction, of producing the disease and to have them removed.

THIRDLY, We earnestly recommend the frequent washing of all impure parts of the city in warm and dry weather, by means of the pumps, until the water of the Schuylkill can be made to wash all the streets of the city; a measure which we conceive promises to our citizens the most durable exemption from bilious fevers of all kinds, of domestic origin.

FOURTHLY, To guard against the frequent source of Yellow Fever from the noxious air of the holds of ships, we recommend the unlading all ships, with cargoes liable to putrefaction, at a distance from the city, during the months of June, July, August, September and October. To prevent the generation of noxious air in the ships, we conceive every vessel should be obliged by law to carry and use a ventilator, and we recommend in a particular manner the one lately contrived by Mr. Benjamin Wynkoop.—We believe this invention to be one of the most important and useful, that has been made in modern times, and that it is calculated to prevent not only the decay of ships and cargoes, but a very frequent source of pestilential diseases of all kinds, in commercial cities.

In thus deciding upon the nature and origin of our late fever, we expect to administer consolation to our fellow citizens upon the cause of our late calamity,

for in pointing out its origin to the senses, we are enabled immediately and certainly to prevent it. But while the only source of it is believed to be from abroad, and while its entrance into our city is believed to be in ways so numerous and insidious, as to elude the utmost possible vigilance of health officers, we are led in despair to consider the disease as removed beyond the prevention of human power or wisdom. It has been by adopting measures, similar to those we have delivered for preventing pestilential diseases, that most of the cities in Europe, which are situated in warm latitudes, have become healthy in warm seasons, and amidst the closest commercial intercourse, with nations and islands constantly afflicted with those diseases. The extraordinary cleanliness of the Hollanders was originally imposed upon them, by the frequency of pestilential fevers in their cities. This habit of cleanliness has continued to characterize those people, after the causes which produced it, have probably ceased to be known.

In thus urging a regard to the domestic sources of the Yellow Fever, we are actuated by motives of a magnitude far beyond those which determine ordinary questions in science. Though we feel the strongest conviction that the value of property, the increase of commerce and the general prosperity of our city, will be eminently forwarded by the adoption of the foregoing propositions, yet these are but little objects in our view, when compared with the prevention of the immense mass of distress, which never fails to accom-

pany a mortal epidemic. We consider ourselves moreover as deciding upon a question, which is to affect the lives and happiness, not only of the present inhabitants of Philadelphia, but of millions yet unborn, in every part of the globe.

We are with the greatest respect,
Sir,

Your very humble servants,

BENJAMIN RUSH,

CHARLES CALDWELL,

WILLIAM DEWEES,

JOHN REDMAN COXE,

PHILIP SYNG PHYSICK,

JAMES REYNOLDS,

FRANCIS BOWES SAYRE,

JOHN C. OTTO,

WILLIAM BOYS,

SAMUEL COOPER,

JAMES STUART,

FELIX PASCALIS,

JOSEPH STRONG.

MEMORIAL OF THE COLLEGE OF PHYSICIANS.

To the Senate and House of Representatives of the Commonwealth of Pennsylvania, the Memorial of the College of Physicians of Philadelphia respectfully represents :

THAT your Memorialists, deeply affected with the calamities produced by the disease which has recently occurred amongst us, are impelled by a sense of duty to their fellow citizens and themselves, to inform you, that they consider the laws which were enacted for the purpose of preserving this city from malignant, contagious disorders, as very imperfect.

The subject being of immense importance, they hope to be excused for stating their sentiments with respect to it at large.

They are of opinion, that the disease which produced so much mortality and distress in the year 1793, was imported into this city from the West-Indies ; and they are confirmed in this sentiment, by the circumstances attending the disease of this year, which they consider as of the same nature, and derived from the same source.

Some of their most important reasons for this opinion, are as follow :—The disease in question is essentially

different from the fevers that occur in this climate, and which originate from domestic causes. This difference particularly regards the general progress of the symptoms, and the mortality, as is evident upon a comparison of its history with that of the ordinary diseases of this city.

A disease which resembles the fever of 1793 and of this year, in many important points, has long been known in the West-Indies, and those parts of America situated between the tropics; and in seven or eight different instances in which a similar disease has occurred in the United States, in the course of this century, there is good reason to believe that it was derived from those countries. In most of the instances, the original history of the disease contains the information that it was imported. In some cases, the infection can be traced to the imported clothing of persons who died in the West-Indies. In most of the cases where the importation cannot be ascertained, the first appearance of the disease has been, as in the other instances, in the neighbourhood of the shipping, or among persons connected with vessels.

The circumstances attending the fever of this year are extremely in point; and the narrative which accompanies this, will, we trust, satisfy you that it was imported.

The disease in question, commences invariably in our sea-ports, while inland towns, equally exposed

to the ordinary causes of fever, escape; and in the two last instances of its occurrence in Philadelphia, the suburbs and the country adjacent, were more healthy than usual at the same season; and at the commencement of the disease, all the parts of the city, excepting the small spaces to which it was confined, were remarkably healthy.

It exists in the West-Indies, particularly in time of war, when great numbers of strangers are to be found there; and reference to dates will shew, that in most of the instances of the occurrence of the disease in the United States, there has been war in the West-Indies.

Your Memorialists are aware, that cases may be adduced where the disease has occurred in persons, who were not known to have been exposed to imported contagions, but such is the subtle nature of this power, that it often exists unsuspected; and similar difficulties occur respecting the small-pox, and other contagions, allowed by all to be of foreign origin. There also occur, although very rarely, solitary cases of malignant remitting fevers, the symptoms of which resemble so much the disease in question, that they are often supposed to be the same; but there is this essential difference, that a malignant remittent fever has never been to our knowledge contagious in this climate. †

The difference of sentiments among physicians, now so much regretted, resembles that which almost always takes place, when the plague is introduced into any of the civilized parts of Europe, where it is not well known. The identity of the disease, its origin and its contagious nature have been often the subject of controversy. Some physicians have considered it as of domestic origin; but proper health laws, strictly enforced, have latterly protected the commercial parts of Europe from its ravages.

With these sentiments of the nature of the disease, your memorialists cannot but regard a proper law respecting the subject, as a matter of the greatest importance, and although they are perfectly sensible of the imperfection of the science of medicine, yet from a conviction that physicians are the best informed, as well as the most interested in the subject, they approach you with that respect which is due to your legislative authority, and declare their belief, that the existing health laws of this Commonwealth are not such as are best calculated to obtain the desired end, and that they ought to be improved.

Having lately communicated in writing to the governor their ideas respecting the best methods of preventing the introduction of contagious diseases, they beg leave to refer you to that communication. At the same time they tender you their professional

assistance in framing an efficient law for this purpose; and thus having performed their duty, they hold themselves discharged from all responsibility, on account of the evils which may arise from the present imperfect state of the legislative arrangements respecting this important subject.

By order of the College,

Attest,

JOHN REDMAN, *President.*

THOMAS C. JAMES, *Secretary.*

Philadelphia, Dec. 5th 1797.

Narrative of Facts relative to the probable Origin, and Progress, of the Malignant Contagious Fever which lately appeared at the junction of Penn and Pine Streets.

THE ship *Arethusa*, Captain Keith, sailed about June 1, 1797, from Port Royal in Jamaica for the Havannah, with slaves; during the passage two men died with a fever, which Mr. Stephen Kingston, a gentleman of this city, who was a passenger on board, and has frequently seen the disease, believes to have been the Yellow Fever, one having the black vomit. After remaining some days at the Havannah, the vessel proceeded for Philadelphia, and arrived in the stream opposite to Pine Street, July 23, 1797. At the Capes of Delaware she took on board a Pilot, and performed a quarantine of five days at State Island.

The Pilot was attacked with a fever, the day of their arrival at the city, and went on shore the same day, when he was visited by Dr. Currie, who has been much conversant with the Yellow Fever, and was so sensible of the resemblance of his symptoms to those of that disease, that he mentioned the case as suspicious, to one of his friends.

The Arethusa was moored at Mr. Joseph Russell's wharf, outside of two vessels which lay there when she arrived, her crew left her immediately after she was moored, and the next day returned for their cloathing, &c. when they crossed and re-crossed the above mentioned ships. Two boys only and the captain (who was on board occasionally) composed the crew of the outermost ship, or that immediately contiguous to the Arethusa; but the innermost vessel, the brig Iris from Oporto, had a crew of the usual number. On the twenty ninth day of July, five men of this crew were taken ill with fever, and attended by Dr. J. Stuart, who states in his report to the College of Physicians, that the symptoms were similar in all, tho' varying in the degree of violence; four of these recovered, but one died with unequivocal marks of the malignant Yellow Fever. A servant of George Latimer, Esq. who lived about 100 yards to the north of this vessel, and was frequently on the wharves, was attacked, July 30, with a fever which was highly contagious and malignant, of which he died in a few days.

Mr. N. Lewis, who kept a counting room which was about the same distance from the *Arethusa*, was attacked about the same time, and died also in five days, of a fever which was supposed to be of the same nature.

Mr. Dominick Joyce, who was much engaged on board a ship near the *Arethusa*, was attacked, August 3d. with a fever of the same kind but, but recovered. A man who lived in a store on the South side of Pine Street, about 150 yards from the river, was attacked with a malignant fever about this time, and died in a few days.

About the sixth of August, Mr. Ferguson, whose yard adjoined the wharf where the *Arethusa* and *Iris* lay, was attacked with a malignant fever, and the same day Mr. John Plankinhorn's girl, who lived nearly opposite to Mr. Ferguson's across Penn Street, and worked in a yard which was situated very near to the above mentioned store in Pine street, was also attacked with fever, they both died on the fifth or sixth day after the attack. Mrs. Ferguson with very suspicious, and Mr. Plankinhorn's girl, with complete and unequivocal symptoms of the Yellow Fever. In this manner the disease continued to spread, so that by the middle of August, or within three weeks from the arrival of the *Arethusa*, above ten persons had died, who either lived or were engaged in business within 300 yards of the *Arethusa*, and this at a time when the other parts of the city were so healthy, that it is

probable all the other deaths which occurred in it were not equal in number to those which occurred in this small district. After this the disease gradually extended itself to Southwark, and at the same time became thinly scattered through the city, where its destructive effects are but too well known.

December 26th, 1797.

Facts relative to the sickly state of the ship HIND.

It appears from the depositions of Francis Tow, Nicholas Benson, and William Cooper, seamen on board the armed ship Hind, taken before Chief Justice M'Kean, that about the beginning of July 1797, the Hind sailed from Port-au-Prince, bound to Philadelphia, with a cargo of sugar and coffee, and with 43 passengers; of which number 23 were whites and twenty coloured persons, that they touched at Cape Nichola Mole, where they remained eight days and discharged a part of their cargo, in lieu thereof taking in a quantity of stone ballast; during the time they lay at the Mole the passengers were occasionally on shore. It would appear that they left the Mole between the 12th, and 15th, of July, and arrived at this port, after a passage of twenty or twenty one days. About three or four days after their departure from the Mole, five or six white persons and one negro of the passengers were attacked with fever, the white persons so attacked were observed to become very yellow.

During the passage four other coloured persons and five of the crew fell ill of fever: one or two of the latter number, after the vessel entered the capes of Delaware; but only a coloured boy and child died during the passage, and were thrown overboard after the vessel entered the river. Upon the arrival of the vessel opposite the Marine Hospital, in consequence of orders from the captain, four sick persons were secreted and did not come under the inspection of the Physician of the Port; exclusive of these, two women were sick in the cabin. After passing the Fort one of the seamen was taken ill, went on shore, and was afterwards carried to the Marine Hospital; and two other persons were taken on shore sick. So far go the depositions.

From information obtained from the Health Office, it appears, that the Hind was examined at the Fort on the second, and arrived at Philadelphia on the fourth of August; and that Mr. Doughty, one of the Inspectors of the Health Office, sent to the Marine Hospital on the 13th of August, Peter Malofio, one of the crew of the Hind then residing in Love Lane, and on the 14th a Portuguese from near the junction of Penn and South Streets, who had been landed there; and that another person was sick of a suspicious fever at Mrs. O'Connor's, in Almond near Front Street. Both these were from on board the Hind, and the Portuguese above-mentioned had been visited by Dr. Currie, who declares his disease to have been Yellow Fever.

Letter from the ACADEMY OF MEDICINE to THOMAS MIFFLIN, Esq. Governor of the State of Pennsylvania.

SIR,

THE Physicians, who answered your letter of the sixth of November, respecting the origin and nature of the epidemic fever which lately prevailed in the city of Philadelphia, having, with others of their medical brethren, associated themselves under the name of "The Academy of Medicine of Philadelphia," beg leave, in that capacity, to address you again upon the interesting subject of the said letter.

The Academy have seen, with regret, a memorial, from the College of Physicians of the city, to the legislature, accompanied with a "narrative of facts" intended to establish an opinion contrary to that, which the subscribers of the answer to your letter, conceive they had therein proved in the most irrefragable manner.

As the opinion appears to us replete with danger to the lives of our fellow citizens, and to the prosperity of our city, we deem ourselves bound by the principles of humanity, and the obligations of patriotism, to make a few remarks upon it; and to shew that it is founded upon partial investigations, and mistaken ideas of the nature of the Yellow Fever.

The College have ascribed the origin of the late epidemic to the ships *Arethusa*, captain Keith, from Havanna, and *Hind*, captain Patot, from Port-au-Prince. The memorial sets forth that, “ the ship *Are-*
 “ *thusa*, capt. Keith, sailed about the first of June,
 “ from Port Royal in Jamaica, for the Havanna with
 “ slaves; during the passage two men died with a fever,
 “ which Mr. Stephen Kingston, a gentleman of
 “ this city who was a passenger on board, and has
 “ frequently seen the disease, believes to have been
 “ the Yellow Fever, one having the black vomit.” Admitting the fact, which rests merely upon the belief of a person not medically educated, yet the arguments hereafter to be adduced, it is presumed, will destroy the probability of its being introduced by this ship. That the island of Jamaica was healthy at the time the *Arethusa* sailed, appears from the answers given by the captain of the said ship, to the official interrogatories filed in the Health-Office relative to this subject; and from those of capt. Henry Latimer, of the Brig *Maria*, who sailed from the above port about the same day. That the disease of which the men died was not contagious is rendered probable by its not having spread among the passengers or crew who amounted to seventy, all of whom arrived in good health at the Havanna on the twenty-first of June. But supposing the disease to have been of a contagious nature, the precautions taken after the deaths, would have been sufficient to have destroyed any remains of

the contagion. From Mr. Brien's deposition it appears, that " The cloathing, bedding and articles belonging to the deceased were thrown overboard, and their births cleansed and well sprinkled with vinegar." And we are authorized further to assert, that the ship underwent such a complete cleansing while at the Havanna, after landing the slaves, as prudence would dictate to a ship-master, in every similar case. The ship, moreover, after lying at the Havanna fourteen days, during which time all on board remained well, arrived opposite the Health-Office on State island, on the eighteenth of July. During the whole of this passage her hatches were constantly open, whereby the most ample means for a free current of air were afforded, which could not fail to dissipate any remains of contagion which could possibly have continued after her former purifications. The ship performed five days quarantine opposite the Health-Office, on State-Island, during which time the bedding was every day exposed upon deck and was once washed by a rain. The crew moreover remained well, except the captain, who was affected with a rheumatism, and the mate, with a lax, both of whom soon recovered. The pilot who conducted this ship was attacked on the twenty-third of July, and allowing three days for the time he had been exposed to the contagion before his fever appeared, there will remain forty six days from the time the ship left Kingston till her arrival in our river. From the known laws of the contagion of the Yellow

Fever, and the distance of time at which it usually appears, after persons have been exposed to the contagion, the Academy conceive it scarcely possible, if any portion of contagion had been left by the before-mentioned persons, that it would have remained inactive for above forty six days, exposed as the crew were to the exciting causes of fatigue, night watching and the vicissitudes of the weather. The perfect freedom from disease which all on board enjoyed, must therefore be admitted as proof that no contagion did exist; and consequently that the pilot and others could not have derived their disease from that source.

The College further state that “The pilot was
 “ attacked with a fever, the day of his arrival with
 “ the ship at the city, and went on shore the same
 “ day, when he was visited by Dr. Currie, who has
 “ been much conversant with the Yellow Fever, and
 “ who was so sensible of the resemblance of his
 “ symptoms to those of that disease, that he mention-
 “ ed the case as suspicious to one of his friends.”

In addition to the arguments, before adduced, for supposing that the pilot could not have taken his disease from any remains of contagion on board, the Academy further remark, that the source from whence he derived his disease was probably, and as he believes, from a current of cold air during the night, while sleeping in the open cabin of the ship, after a warm day, which preceded that on which the qua-

quarantine of the ship was ended. His indisposition came on the next morning, and soon after his arrival in this city, a violent fever succeeded, of a kind, which we every year observe in Philadelphia, from sudden changes of the weather, in the summer and autumnal months, and especially from similar exposure on the river. It may be added, that he was but a few days confined, and that none of his friends who nursed him, or others who daily visited him were affected by him; neither were there any precautions taken to avoid contagion, nor the least intimation of danger given to those who constantly attended him. Under all the circumstances which have been mentioned, it is impossible to believe that the pilot's disease was derived from an imported contagion.

The College in their memorial have insinuated that the crew of the Brig Iris were infected with the Yellow Fever by the crew of the Arethusa passing across her deck to the wharf. If this had been true or even possible, it must have been in one of the three following ways: 1st. By the actual sickness of the crew; 2d. By the contagion blowing off their cloaths in passing over the decks; or, 3d. By the contagion, which had adhered to the timbers of the Arethusa, being conveyed by the wind over two intermediate vessels to the Iris.

It is not pretended that any of the crew of the Arethusa were indisposed, therefore the first supposi-

tion must be rejected. They could not have infected the crew of the Iris in the second mode, because it is not alledged that they stopped a moment when passing over her deck. But admitting they did, it cannot be believed, that a disease could be conveyed by their cloaths, to the crew of the Iris in the open air, when it is well known, that those cloaths when worn, and even washed in confined lodging houses afterwards, did not infect a single person, in any part of the city. Lastly, it is highly improbable that the crew of the Iris could have been infected by the timbers of the Arethusa, because, we have no proofs that the contagion of the Yellow Fever ever adheres to wood; but admitting this to be possible, we reject the probability of it, because, as we before observed, the ship had been well cleansed and freely ventilated on her voyage from the Havanna to Philadelphia. We are the more disposed to ascribe the destruction of contagion, if any had existed, to the pure air of the ocean, from having so repeatedly observed the effects of country air in weakening or destroying it in the United States. The Academy are moreover authorised by Dr. Stewart to assert, that none of the family, with whom the five men of the Iris boarded, were infected; but that they preserved their health the whole time of the prevalence of our late epidemic.

As the Iris lay at Pine-street wharf, and entirely within the limits of the exhalations from the snow Naviga-

tion, to which we formerly referred, it is highly probable that they were infected thereby, and that the disease was excited by their intemperance in the use of Port wine, with which the brig was loaded, and by the practice of bathing themselves in the river while under the influence of liquor, and heated by labour. From this conduct it is conceived by the Academy, the peculiar violence of their diseases can be accounted for, as a similar cause is always ranked among the most powerful, in the production of malignant cases of bilious yellow fever; and Dr. Stewart authorises the Academy to assert his belief, that the Fever, in the cases he communicated to the College, proceeded from exhalation; and he thinks most probably, that of the snow Navigation*.

Two of the other persons mentioned by the College, *viz.* Mr. Lewis and Mr. Latimer's man, said to have been infected by the *Arethusa*, were much nearer the snow Navigation than the *Iris* was, and were exposed to the exhalation from the former vessel. With regard to Mr. Lewis, we shall observe, that he was absent from the city when the *Arethusa* arrived, and did not return until six days afterwards, which was on the thirtieth of July. On the first of August, the day of his attack, it is known that he complained very much of the stench

* Though at an early period of our late epidemic, Dr. Stewart suspected that the crew of the brig *Iris* were infected by an intercourse with that of the ship *Arethusa*, yet, a farther investigation and ascertainment of facts, have since satisfied him that this was not the case, but that they most probably, as above stated, derived their disease from foul air issuing from the hold of the snow Navigation.

of the snow Navigation, which had now pervaded the whole neighbourhood, and expressed great concern at her being permitted to remain at the wharf. The Academy are authorised, by Mr. Dominick Joyce, to express his surprize at the assertion of his having taken his fever from the Arethusa; for, though his business led him to the neighbourhood of that ship, yet he was still within the sphere of the extent of the foul air from the snow Navigation, and he acknowledges he was almost every day upon the wharf at which this vessel lay, and from which he, in all probability, derived his disease.

As all the other persons whose cases are mentioned by the College, lived within the extent of the exhalation from the snow Navigation, there can be little doubt, but that they derived it from the same air which affected the persons, whose names they have mentioned. It is remarkable, that the disease was in no instance propagated from any of them.

The Academy have good reason to believe, that the persons who were indisposed on board the armed ship Hind, after her arrival, derived their diseases from the noxious air of the snow Navigation, in common with the persons who were affected on board the Iris, and in the neighbourhood of Mr. Latimer's wharf. It appears that none of them propagated the disease to any of their attendants in the city, or in the hospital at State Island, to which place some of them were sent.

It is well known, moreover, that many citizens repeatedly visited and spent whole days on board this vessel, none of whom were indisposed in consequence of it.

From the depositions of the supercargo and of the pilot of the Hind, it will likewise appear, that the whole of the testimony of the three boys is disproved, except as to some unimportant particulars*.

We are unable to give credit to the traditional rumours of the foreign origin of the Yellow Fever, in any part of the United States, inasmuch as from the inaccuracy of the few records which have been preserved, of the places from whence it was said to be derived, and of the manner in which it was said to have been introduced into our country, we have reason to conclude they were assumed without sufficient investigation. Had the proper steps been taken at all times to investigate its origin, it is probable it would have been discovered, in most cases, to have been the offspring of domestic putrefaction. We cannot close the arguments against the importation of the Yellow Fever, without remarking, that many recent facts and observations render it probable, that the reports of its contagious nature have been exaggerated, and that it is not so often propagated by contagion as has been supposed, more especially in warm weather, when sick

* See Appendix, (B.)

rooms are open night and day, to the constant accession of fresh air.

We observe in the memorial of the College of Physicians an assertion, that the Yellow Fever "Is essentially different from the fevers that occur in this climate, and which originate from domestic causes:" but as no proofs are adduced in favour of that assertion, we shall rest our opinion of the original sameness of both those states of fever, upon the facts and arguments which were stated in our former communication. We shall only observe, that the idea maintained by the College, has been exploded by some of the most distinguished writers upon tropical diseases; and by most of the American physicians of the southern states, who constantly consider and treat both the common bilious fever, and its higher grade, called Yellow Fever, as the same disease, varying only in violence.

The Academy observe also, with surprise, another assertion made by the College, that "The disease in question, invariably commences in our sea-ports, while inland towns, equally exposed to the ordinary causes of fever, escape." To this we reply, it is well known, that in various parts of the United States, remote from sea-ports, precisely the same disease, with all its characteristic symptoms, has frequently prevailed.

The College in their narrative have taken no notice of the origin of the Yellow Fever in Kensington, nor at

and near Red-Bank upon the eastern shore of the Delaware. Its origin in the former of those places from the noxious air emitted from the putrid coffee of the ship Huldah, and in the latter from marsh exhalation, we conceive to be fully established by the documents communicated in our appendix *. The College have also observed a total silence in their report respecting those cases of Yellow Fever, which appeared in our city, before the arrival of the Arethusa, Hind or Navigation. These cases were evidently derived from some of the numerous sources of exhalation, from putrid substances in and about the city. They were attended by Doctors Rush, Physic, Caldwell, and Pascalis.

We cannot take leave of this important subject without expressing our earnest desire for its candid and close examination, by the Legislature of the State.

Facts and arguments similar to those we have urged, have produced a conviction of the domestic origin of the Yellow Fever, in Boston, New York, Baltimore, Norfolk and Charleston, and many of the other towns of the United States. This conviction has been followed by measures, in New York, which promise in future years an exemption from the disorder.

With ardent wishes for the prevalence of truth, upon this important subject, in the capital of the United

* See appendix (C.)

States, we have the honor to add our most respectful wishes, for your health and happiness.

Signed by order of

The Academy of Medicine of Philadelphia.

March 20, 1798.

PHILIP SYNG PHYSIC, *President.*

FRANCIS BOWES SAYRE, *Secretary.*

To THOMAS MIFFLIN, Esqr.

Governor of Pennsylvania.

Appendix.

(A)

IN several interesting particulars, respecting the origin of the epidemic of ninety-seven, misrepresentations of facts, have much deceived the public mind. These misrepresentations, we believe to have been entirely the result of an easy credulity, disposed to rest satisfied with popular report, and not of any settled intention to mislead. They have been most striking and fallacious in the accounts propagated, respecting the origin of the disease in Kensington, and at Red-bank, on the Jersey shore, of the river Delaware *. To be able the more effectually to counteract the pernicious influence of such misstatements, the Academy of medicine have found it necessary, to set on foot particular investigations. The result of these, they now beg permission to submit, in the form of a few documents, to the candid consideration of the public.

It is known to have been very generally reported, and almost as generally believed, that the late epidemic was introduced into Kensington by Mr. John Bruster, who was said to have received the infection by going

* On the subject of the true source of the epidemic, in these two situations, the public are by no means at present in possession of accurate information.

on board the armed ship Hind, from Port-au-Prince. It is true, that Mr. Brufter was, at least, among the first (if not, indeed, himself the very first) who was attacked by this disease in Kensington, in the summer of ninety-seven; but that he could not possibly have derived his illness from any intercourse with the ship Hind, is a truth unequivocally established by the following documents, particularly by the affidavit of Michael Lynn.

DOCUMENT.

Proofs of the disease, occurring from exhalation in Kensington; from marshy grounds; and from the hold of a ship.

From the books kept at the Merchants' Coffee-House, it appears that the British armed ship Hind, Francis Patot Commander, from Port au-Prince, was seen below the Fort on the 2d. of August;—and at 10 o'clock of the same day she came within sight; and lay off the Fort for examination.

The usual questions were this day (2d. of August) proposed, by the Health-Officer, to the commander, as appears by the paper preserved on the files at the Health-Office in this city. She came up to the city on the 3d; and entered at the Health-Office on the 4th of the month.

As no mention is made, previously, of her being seen in the river; the probability is that she had a speedy passage up the Delaware.

The person who first had the Yellow Fever in Kensington, was a young man of the name of John Brufter. He is said to have taken the disease by having been on board the Hind; and through him, the fever was said to have been introduced into Kensington. Upon an examination into dates, this is altogether impossible: Brufter died on the 2d. of August, after an illness of 4 days and 4 hours, according to his father's account, which brings the commencement of his attack to the 29th July, or four days *previously* to the arrival of the Hind at the Fort. Exclusively of this fact, I have added the affidavit of Michael Lynn, to prove that he did not go on board of any vessel in a voyage down the river to Reedy Island. Some other source for his disease must then be looked for; and this I derive from the marshy exhalations (arising from the low grounds and meadows on one or both sides of the river) to which he was exposed in his passage in a small Schooner, to and from Reedy Island in the middle and close of July, aided by imprudent exposure, by sleeping upon the wet decks of the vessel.

Wm. Reed, who died on the 5th of August after 7 days illness, appears in all probability to have derived his disease from some of the *local* sources which

are numerous in, and about Kenfington; although if common report had been credited, we should have afcribed it to the picking up of a cask which was faid to have been thrown from the Hind. As however, he died on the 5th, after 7 days illnefs; the ftory is altogether impoffible, as it brings the commencement of the difeafe to the 29th of July, or 4 days preceding the arrival of the Hind. The fame fources, which in Kenfington, commonly produce in the Autumnal months, remittents and intermittents, have this feafon by the peculiar conftitution of the atmosphere, (whatever that may be owing to) raifed thofe difeafes to the more violent grade of Yellow Fever.

To thefe *local* fources I would alfo without hesitation afcribe many of thofe cafes which occurred in Kenfington, and which were all afferted to be traced to contagion.

In that range of houfes, extending northward from the bridge over Kohocking creek, and to the weft of the main York road, not lefs than fix or feven people died of the Yellow Fever. Thefe houfes it will be recollected, are bounded on the weft by that large portion of low marfhy ground to the northward of the bridge; and from this abundant fource of exhalation, I think it moft rational to deduce the feeds of the fever which occurred there. And this is rendered much more probable by the collateral evidence, of the fame fever having exifted in the fa-

milies of Mr. Boudinot and Mr. Leaming, near the Frankfort road, where low and marshy grounds afford ample origin to those noxious miasmata which produce intermitting and remitting fevers. The straggling manner also, in which the disease occurred in Kenfington, renders it more probable that it originated from *local* sources, than that it was introduced and spread through the medium of contagion.

The next persons who were attacked in Kenfington, were in the family of Mr. Joseph Bowers. These appear to have received the disease from the noxious miasmata originating in the hold of a ship called the Huldah, which went up to Kenfington to clear out at Mr. Bowers' wharf, after discharging her cargo in this city. The following is the statement which I have procured respecting this ship, chiefly from the house of Summerl and Brown, to whom she was consigned.

The ship Huldah, Captain William Warner, sailed from this port for Hamburgh, on the 18th of October, 1796, laden with coffee, sugar, and furs. After landing her cargo, she does not appear to have cleared out her ballast, &c. but sailed from Hamburgh for this place on the 11th of April, 1797, laden with hemp, iron, cordage, dry goods, glass, and brandy. She arrived at New-York on, or about, the 1st day of July, where she discharged 109 pipes of brandy. On the 13th, she sailed for Philadel^a,

phia, and entered at the Health-Office on the 17th of the month, having thirteen seamen on board in perfect health, which had been the case during the whole voyage of upwards of ninety days. She discharged her cargo at Vannuxem's wharf, between Arch and Race-streets, and on Sunday the 13th of August, she was carried to Mr. Bowers' wharf at Kenfington, by the mate and one of the sailors, (Joseph Way of Wilmington, nephew to the late Dr. Nicholas Way, of this city) assisted by Nicolas Painter of Kenfington. They proceeded to clear her out the following day, August 14th. After getting through a quantity of sand, which lay above the ballast, so nauseous and offensive a smell proceeded from her, that the mate was indisposed for several days. Joseph Way was obliged to lay by; and after drooping some days, he went down to Wilmington, and there died, with a severe attack of the Yellow Fever, on the same day with his uncle, in this city, viz. on the 2^d of September.

Nicholas Painter and Christopher Rush, who assisted in cleaning her out, stood the effects of this exhalation till Wednesday, 16th of August; when they were seized with violent head-ach, especially *above* the eyes; sickness and vomiting, and pain of the back; accompanied by fever. Rush says, he has never completely regained his health since that period. He further says, that the smell of the hold of the Huldah was so nau-

feous, that he could not get it out of his nose for several days.

Upon investigation it appeared, that the smell proceeded from a quantity of coffee, (which must have escaped during the voyage to Hamburgh) mixed with the bilge water and sand, and which was in the highest state of vegetable putrefaction; being very black, and containing worms or maggots nearly two inches in length.

Mr. Joseph Bowers' boy was the first of his family who was attacked. He worked in a schooner which lay along-side of the Huldah, and was seized on Tuesday, the 15th of August, and died on the 22d. Mr. Bowers himself seems to have received the seeds of the disease on Tuesday, the 15th, at which time he was on board the Huldah, and noticed the very offensive smell proceeding from her hold. He sickened on the Sunday following, the 20th of August, and died on the 25th. A maid-servant and two children also had the disease; one of the children died. It is possible that these last, took the disease by contagion from Mr. Bowers or his boy; though I think it more probable, that they derived it from the original source, *viz.* the ship's hold; as the wharf is not very distant from the house, and as yet we know not the exact limits to which these noxious miasmata may be carried, without losing their baneful influence by dilution with the atmosphere.

Many cases which occurred in Kensington after this period, were, most probably, derived from this source. The accounts of them are altogether wrapt in doubt and supposition. Most of them are said to have taken it by contagion from others; but this is rendered highly improbable by the very moderate degree in which this fever has evinced itself to be possessed of a contagious power; and more especially in so airy and extended a village as that of Kensington.

It would appear then, from the preceding pages, that the disease as it existed in Kensington, had *three* different sources, *viz.*

FIRST; By *Exhalation* or *Marsh-effluvia*, derived from the low grounds on the banks of the Delaware; as was the case with *Bruster*.

SECONDLY; From *Exhalation* or *Marsh-effluvia*, derived from the local sources of low grounds in, and about Kensington; as evinced in those cases which occurred in the range of buildings, to the westward of the York road: and,

THIRDLY; From the *Exhalation* or *Noxious effluvia*, proceeding from putrefying vegetable matter, in the hold of the ship *Huldah*; as in the cases of *Mr. Bowers* and his family, and perhaps in others.

The disease, possibly, in some few cases spread by contagion. *King*, a coffin-maker, who assisted in put-

ting the dead into their coffins, may have derived his disease, of which he died, from this source. It is however problematical; for he was with others, exposed to those causes which produced it in them.

JOHN REDMAN COXE.

Philadelphia, December }
1st, 1797. }

AFFIDAVIT of Christopher Rush.

“ County of Philadelphia ss.

“ Personally appeared before me, Peter Brown, one of the Justices of the Peace, in, and for the county aforesaid, Christopher Rush; and being duly sworn upon the holy evangelists, did depose, and swear, that, in working on board the ship *Huldah*, at Joseph Bowers' wharf, on the 14th of August last, he perceived a most offensive smell on board the said ship, arising from some putrefied coffee, in the hold of the ship. That he, the said Christopher Rush, was made sick for several days from the said smell, as also were Nicholas Painter and Joseph Way, who worked with said Christopher Rush on board the ship *Huldah*. He deposeth further, that Joseph Bowers and his man were exposed to the said smell, from working and at-

tending on board the said ship; and further this deponent sayeth not.

his
" CHRISTOPHER C. R. RUSH,
mark.

" Taken and subscribed before me, this 30th day of November, 1797.

" Signed,

" (Seal)

PETER BROWN."

A true copy, J. R. Coxe.

AFFIDAVIT of Michael Lynn.

" *County of Philadelphia ff.*

" Personally appeared before me the subscriber, one of the Justices of the Peace, in, and for the county aforesaid, Michael Lynn; who being duly sworn upon the holy evangelists, doth depose and say, that on the 17th day of July last, he accompanied John Brufter from Kenfington, at which place the deponent resides, down the river Delaware, in a small schooner, and returned home on the 23d day of July, making an absence of six days; during which time, neither the deponent nor the said John Brufter was on board of, or along side, of any ship or vessel whatsoever; and that on the Sunday following, which was exactly

one week after their return, John Brufter was taken sick, and died the Thursday following.

“ Signed MICHAEL LYNN.

“ Taken and subscribed before me, this 30th day of November, 1797.

“ Signed,

“ (Seal) PETER BROWN.”

A true copy, J. R. Coxe.

Copied from the original documents, in the possession of the Secretary of the State of Pennsylvania.

J. R. C.

(B)

The Academy of Medicine cannot do otherwise than express their surprize, that the College of Physicians, in their researches after the origin of our late epidemic, should have thought it necessary to make the armed ship Hind an object of attention. It is a truth well known, that the fever had prevailed in our city several days previously to the arrival of that vessel; and it is, in like manner, a truth which ought to be known, that none of those persons supposed to have been infected by an intercourse with her, communicated their disease to any of their visitants or attendants. Where then, the Academy would beg leave to ask, is

even the faintest evidence, of the ship Hind having been at all instrumental, in the introduction of this disease? There certainly exists none. Nor, in a candid investigation of the subject, does there appear to be ground sufficient to authorise, even the mention of the name of this vessel.

As the College of Physicians appear, however, by their late pamphlet, to have directed to the Hind, an undue share of public attention, it has become necessary to make their narrative respecting her, a subject of particular consideration. The only evidence of which that learned body are possessed, respecting the sickly state of this vessel, is derived from the affidavits of three common mariners belonging to her crew; two of whom were nothing more than boys. In opposition to the evidence delivered in these affidavits, we would here beg leave to submit to the public, the affidavit of the supercargo of the Hind. The report, delivered in his deposition, is farther corroborated by the joint testimony of three other respectable characters, on board the same vessel. From this document, it will at once appear, on how equivocal a foundation, the College have thought proper to rest this part of their investigation, respecting the origin of the disease in question.

*After reading the arguments of the Academi-
cal authorities that they sh^d deny the
the Arcturusa & Hind introducing the fe-
ile they admit that it might by the
navigation - why not the former as
readily as the latter - & indeed the fac-*

AFFIDAVIT of the Supercargo of Hind.

Personally, before me, Hilary Baker, Mayor of the city of Philadelphia, came Thomas Badaraque; who, being duly sworn, doth depose and say, that he was supercargo of the ship Hind, captain Patot, from Port-au-Prince to Philadelphia, in the summer of 1797. That they touched at Cape Nichola Mole, and five days after, a child, about six months old, died from teething: that a negro boy, of about nine years of age, died of the scurvy, the day before the pilot came on board. That no other persons were sick during the voyage, except Mr. Campan a passenger, who had been indisposed, before he came on board, with a lax, and other chronic complaints. That no orders were given to conceal any body, upon the arrival of the ship, the captain, from the physician at the fort.

T. BADARAQUE.

Sworn, the 15th day of March, 1798, before me,
HILARY BAKER, Mayor.

The under-signed, passengers on board the ship Hind, at the time alluded to, having been duly sworn, do depose and say, that the facts above related, by Thomas Badaraque, are just and true.

MATHIEU DUPOTEE.

PIER VIDAU.

PONIMIER.

Sworn, the 15th day of March, 1798, before me,
HILARY BAKER, Mayor.

*among measures to account for it - a number of persons
other towns where neither of them ship had been.*

By some, the Yellow Fever, which prevailed at or near Red-bank, is supposed to have originated from an imprudent communication with the shipping in the river, while others alledge, that it was derived from an intercourse with the city of Philadelphia. That both these allegations, however, are equally unfounded, is a truth, which the Academy of Medicine conceive to be satisfactorily established by the following

DOCUMENT.

I do hereby certify, that I visited the farms at or near in the vicinity of Red-bank, situated on the west shore of the Delaware, for the purpose of here ascertaining the origin of the Yellow Fever, that of late had so violently amongst them, during the late autumn. I sought every possible information from the attending physician, the families who had been attacked, and from their neighbours. Knowing that a disease of this kind might have been derived from domestic sources, from the city of Philadelphia, and, possibly, from the shipping performing quarantine, I was exceedingly particular upon these points of enquiry and investigation. After examining the documents upon this subject, I do not hesitate to pronounce it the offspring of local causes.

The most valuable part of these farms consists in meadows, which had been overflowed, for ten or

Page 49 wanting, only.