

Wm. E. Mann

AN

from his friend

ESSAY

the author

ON THE

BILIOUS EPIDEMIC FEVER,

PREVAILING IN THE STATE OF NEW-YORK;

TO WHICH ARE ADDED, A LETTER FROM

DR. JAMES MANN,

HOSPITAL-SURGEON;

AND A DISSERTATION BY

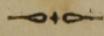
DR. JOHN STEARNS,

Delivered before the State Medical Society, on the same Subject.

WITH

NOTES AND OBSERVATIONS

ON THESE PRODUCTIONS.



BY CHRISTOPHER C. YATES. *J*



THE SECOND EDITION.

ALBANY:
PRINTED BY H. C. SOUTHWICK,
No. 73, State-Street.

.....
1813.

H. S. A. Y.

ILLUSTRATED EPIDEMIC REVIEW
DEDICATION

TO DR. ALEXANDER COVENTRY, of Linn.

By introducing your name to the dedication I
have not been actuated by a desire of adding laurels to
importance to the *Review*. It is a tribute not only to your talents as an accom-
plished scholar, and a learned physician, but of gra-
titude for the very handsome and able manner in
which you have recounted my life, and the lessons
to the point of suffering humanity, by pointing to
the result of a course of practice in the
epidemic, which reason and experience had
pointed out as the most proper and successful.
With acknowledgments to the author of the
dedicated to you by

Your most obliged,
and very humble servant,
C. C. YATES

ALBANY,
PUBLISHED BY H. C. WENTWORTH,
1852.

DEDICATION.

TO DR. ALEXANDER COVENTRY, of *Utica*.

SIR,

By introducing your name to this dedication, I have not been actuated by a desire of adding fame or importance to this Essay.

It is a tribute, not only to your talents as an accomplished scholar, and a learned physician, but of gratitude, for the very handsome and able manner in which you have seconded my first efforts to "lessen the pangs of suffering humanity," by publishing to society the result of a mode of practice in the prevailing Epidemic, which reason and experience had pointed out as the most proper and successful.

With such sentiments, it is most cordially dedicated to you, by

Sir,

Your much obliged,

And very humble servant,

C. C. YATES.

PREFACE.

THE great mortality produced in different parts of this state by the disease which is the subject of the following inquiry, and the many different opinions which have been formed of its nature and mode of treatment, have induced me, at an earlier period than I could have wished, to furnish the public with some general remarks on it.

As no observations have been published* from any physician, whose experience might have enabled him to give a history of the disease, and point out a rational mode of treatment, I have deemed it a duty I owe to society, to give such information on the subject as I have been able to obtain.

My inability to furnish a faultless and learned dissertation on so important a disease has not deterred me from attempting a description, I hope at least intelligible, and a method of cure which I flatter myself will be found successful.

It was painful to my feelings to be daily informed of the many deaths that occurred in the neighbor-

* Except the Letter from Dr. Mann, and Dr. Stearns's Dissertation, which have made their appearance within a few days.

ing counties, and that such deaths were probably the result of improper treatment. I had heard that in some cases the lancet was used with freedom, and in others that large draughts of brandy and laudanum were administered as the only hope of saving the patient.

From this diversity of practice, and its unfortunate result, it became the *duty* of any physician who had experience in the disease, to publish the result, and thereby enable others to improve by his success, and guard against error. Had this been done at an early period, hundreds of valuable citizens who have fallen, and are now mouldering in the dust, would still have been living monuments of gratitude to the author.

INTRODUCTION.

THE very flattering reception the first edition of this Essay has met with from the public, and the very polite manner in which several physicians of respectability, from various parts of this and the neighboring states, have acknowledged the advantages they have derived from the observations it contained, has encouraged me to re-publish it with a few additional remarks.

I had indeed hoped, that some abler pen would have followed my first effort, and given to the public a dissertation, with many facts and observations that might have escaped my notice, or at least have added their testimony to mine, in order to insure a confidence in, or render more general and popular, a practice, which has as yet seemed the only one that could be relied on for the treatment of the prevailing Epidemic. In this we have been disappointed, unless we take into consideration the several newspaper communications that have appeared on the subject, which, from their manner of publication, have had but a limited circulation.

Some of these have, unfortunately, been the means of much mischief; others, again, have done neither hurt nor good, as they contained neither a true history of the disease, and recommended no decisive method of cure; but from this mass I must except a production, which appeared in the

Utica Patriot, over the signature of A. C. and which is unquestionably the best that has appeared, *in any shape*, on the subject of this disease. It was written in a style, and with a confidence, that left no doubt as to its authority, and was unhesitatingly attributed to the pen of Doctor Alexander Coventry.

Had this learned physician entered more fully and minutely into the subject, and given his sentiments to the public in a more desirable shape, he would have performed a duty to society, which they had a right to expect from his talents and his humanity.

It was fondly hoped and expected by many, that the disease would terminate with the close of winter. In this we have been sadly disappointed.

Reports, from different parts of the country, warrant the apprehension, that it is not confined to the cold season. Since the opening of spring, it has appeared in new sections of the country, and increased in others, where it was but slightly complained of, and is now raging in different parts of Massachusetts, Connecticut, Vermont, and, I am informed, in some other states.

It has continued in this city, till the first of May, with various remissions. For some days, there was every prospect of its leaving us, when it would reappear with its usual or increased malignity.

In and during the month of April, it has exhibited more than usual obstinacy to the effects of medicine—while, in the course of the winter, the generality of cases terminated on the third or fifth day, there is hardly a patient who is not confined at this period till the ninth or eleventh

day. Many, at this time, turn yellow on the second or third day. This was an uncommon symptom during the winter.

The number of cases certainly bear no proportion at this time to the supposed ones of last winter. The reason is, in some measure, obvious; there was not an *ache* or indisposition at that time, but was pronounced a case of the prevailing Epidemic.

Since the publication of this Essay, I have had no reason to abandon any part of the practice I had adopted. My confidence in it has not diminished, because *every case*, under the most unfavorable circumstances, has not yielded to it. To have cured every patient, however malignantly attacked by this formidable disease, would have been, indeed, a miracle. As well might we want confidence in Opium as an Anodyne, Tartarized Antimony as an Emetic, and Jalap and Calomel as Cathartics, because they sometimes failed in their intended effects.

The exultation displayed by some of the faculty at an instance of ill success, in a house where four* deaths of this fever occurred, marks the strong depravity of the human mind. It was pointed at as an instance of the *inefficacy* of the evacuating plan, and held up as *a commentary* on the practice, which those very gentlemen had frequently acknowledged, and *under false colors* pursued, as the only one from which they might derive any hope of success.

* One of them miscarried on the third day of her attack.

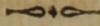
They were not uninformed of the peculiarly unhealthy situation of these patients—that NINE laid sick in one room at the same time, under the operation of medicine, *unnursed, unchanged*, and almost *unfed*, except what the kind hand of charity *fearfully* bestowed; I say *fearfully*, because it was for some time difficult to overcome the dread of infection, created by the most offensive condition of the patients and the room. I had, at an early day, expressed my apprehensions for the loss of every individual then sick, or who should become so in that house, unless an immediate separation or removal took place.

Our profession is indeed a *jealous one*; but should my heart ever know such feelings as were expressed on this occasion, may it be plucked from my breast and thrown to the dogs.

Exclusive of the above family, I have to record two more deaths since January, in the course of my practice. Although I might advance some plausible reasons for the inefficacy of medicine in those two cases, still I shall content myself with stating that *I could not cure them.*

Albany, May, 1813.

ESSAY, &c.



THE fever which is the subject of the following remarks, made its appearance in the city of Albany in the month of October, 1812.

The few cases that occurred were slight, and excited no suspicion in the physicians of possessing any very extraordinary characteristics. About the middle of December, many of the citizens were attacked with it in a severer degree than usual, from the common colds of the season; but their suspicions were not excited till the beginning of January, when a few cases assumed the deceptive appearance of violent pneumonic inflammation. The remedies suited to the treatment of an inflammatory diathesis failed in these instances, and I think no physician in this city will at this day deny that they aggravated the disease and hastened the dissolution of the patients.

Now, for the first time, citizens and physicians became alarmed at the existence among us of the fever which in 1811 had raged with alarming destruction in the southern counties of this state.

We were reminded of the great mortality at the north and west for the last year, where the soldier and the citizen were indiscriminately carried off in a few days, or in a few hours, by a fever, new and unmanageable by the physicians of the army and of the coun-

try where it prevailed. Among the soldiers it proved very mortal on account of their exposed situation, to which was soon added the inclemency of the season. A want of proper nursing, and a strict attention to medical instructions, must have rendered the care and skill of the physicians unavailing in numerous instances, and their want of success might with much reason, and certainly with more charity, be attributed to that misfortune.

During the summer and fall of 1812, a considerable number of deaths occurred in the encampment at Green-Bush, of this prevailing epidemic. How far the treatment of the complaint influenced this mortality I shall not here pretend to discuss; but if my information is correct, two very opposite modes of treatment were pursued. The physicians of the army treated it as a highly inflammatory complaint, while those from the city, who were occasionally called in to assist, treated it as a disease putting on the character of typhus fever. By the first, the lancet was used with a liberal hand, and not confined to one or two bleedings. By the latter, brandy and laudanum were from the first attack exhibited with freedom and without measure.

The alarm thus excited in this city, drew on the physicians an awful responsibility—they felt that they had to contend with a new and unseasonable enemy, and they appeared as readily to embrace new and unseasonable weapons to annoy or destroy it. We had heard much of the good and bad effects of *bleeding*—much of the good and bad effects of *stimulating* :

those who depended on the opinions and reports of others, adopted either the one or the other remedy, as their judgment or fancy dictated—while others were guided by their own observations and a careful watching of the symptoms, and transient or permanent effect of their medicines. While one treated it as eminently sthenic, and another as eminently asthenic, without an eye to the proximate cause, a third rejected all opinions that were not warranted by the most obvious facts; their plan was the removal of offensive bilious secretions, the existence of which was rendered evident by every emetic and cathartic that were administered during the continuance of the fever. They did not feel themselves justified by the pulse to bleed, and used stimulating medicines, even after the most thorough evacuations, with a cautious and hesitating hand.

During the month of January, and in the midst of this clashing practice, many patients who were attacked with this fever, died. The mortality, which was not confined to the prevailing epidemic, became so serious in the city and Colonie, as to induce the Legislature, now in session, to take measures to enquire into the state of health of the city, and had it in serious contemplation to adjourn. A very fascinating preventive now became the *order of the day*. Brandy was cried up as the sovereign remedy against the prevailing fever—and was freely indulged in by those who had heretofore but seldom used it. This fashionable poison had undoubtedly a tendency to excite any predisposition that might be lurking in

the system, and which, if excited by any *other* cause, must at least by this have been aggravated to an alarming degree.

In this state of things I found much to lament and much to rejoice at. While some physicians were so unfortunate as to lose many with the fever, I felt grateful that I had lost none. I felt happy that I stood not alone in this situation—two other physicians of extensive practice had been equally fortunate; their mode of treating the disease was generally the same with the one I had adopted; and until the 26th of January, Doct. Bay and Doct. Wendell, had lost but one patient each.*

Encouraged by this circumstance, I was induced to comply with the polite request of the Editor of the Albany Register, to furnish him with my observations on this disease—~~which~~ I sent him on the 26th of January the following communication.

To S. SOUTHWICK, Esq.

Dear Sir,

I have complied with your request to furnish you with some account of the disease at present prevailing in this city, called by some a *typhus fever*, and which has proved mortal to many of our citizens. I am well aware of the incompleteness of this state-

* Dr. Wendell informed me this was one of his first cases, and was the first and only one *he bled*: And as late as the 10th February he informed me he had not lost another.

ment. It is short, but faithful, so far as my observations have enabled me to examine the disease.

The first case I saw, was in October last, in a young man of about 20 years of age. He had resided all the summer at the Camp in Greenbush, where the disease then prevailed, and had proved mortal to many of the soldiers. He was seized with pains in his side, knees and shoulders, the common effects of a cold—his pulse was weak and very little quicker than in health—his eyes appeared to indicate an increased and inflammatory action in the system, which was contradicted by his pulse—this inflammatory appearance induced me to bleed him. I took about eight or ten ounces of blood; this relieved him for a few hours only. I gave him jalap and calomel, which operated slightly on his bowels—the continuance of pain in his side, induced me to lay a blister plaister on the part—this gave him little relief. I prescribed the usual fever powders, composed of nitre, calomel and tartarised antimony—gave him sweating draughts—his skin continued dry, but not preternaturally warm. Under this treatment, the frequency of his pulse increased, and he grew delirious.

I now had recourse to wine, camphor, laudanum and bark—he continued delirious and died on the seventh day.

Since the above, no case occurred in my practice till about the middle of November, when in the course of a few days I visited two young men—in these cases the pulse and other prominent symptoms which marked the first case, were the same. I did not venture to use the lancet—I prescribed an emet-

ic; this brought away much bilious matter, and relieved the pains in general. I followed this with a dose of jalap and calomel, and thereby cleared the bowels well.

After these evacuations, my patients were easily disposed to sweat, which was encouraged by hot catnip or balm tea—medicine was now discontinued, and they recovered easily.

Since the last two cases, one or more occurred every few days, some slightly, others more severe. The patients now complained of pains in different parts of the body—the heels, ancles, knees, hips, small of the back, shoulders, breast, side and head, a heavy and painful sensation in the eye-balls; they suffered under these pains at different times, and often under many at the same time.

The most distressing chills sometimes ushered in the disease. My patients told me the chills were different from any they ever felt before—they were peculiarly agonizing in some; and in the language of two, “they were like throwing cold water on their hearts.” The tongue at first always pale, and its secretions inactive.

This paleness of the tongue continues in the worst stage—pulse in almost all these cases very little different in frequency from natural, but the sensation given to the finger by the artery, *peculiar* and *new* to me: it appeared that during the intermission of each pulsation, the vessel had completely emptied itself. The pulsations, though they appeared to distend the artery to its usual capacity, were weak and languid. In short, it exhibited every mark that would deter a prudent physician from bleeding.

In a majority of cases, they complained of pain in the right side, and across the breast ; with the last symptom, a slight but frequent cough was frequently attendant.

I have scarcely in any case derived benefit from blisters ; small doses of laudanum, frequently administered, alleviated, or removed those pains.

I never ventured on laudanum (of which I seldom gave more than 100 drops in 24 hours) until after having freely evacuated the stomach and bowels ; over the latter I kept a perfect command with gentle laxatives, which never failed of carrying off great quantities of green colored and sometimes very fætid stools.

This plan in the first stage of the complaint, seldom failed of entirely removing the most distressing symptoms—the appetite returned, and food completed the cure.

In the second stage, the pulse became quick,* feeble, and often hardly perceptible. This generally took place on the third day.

If no favorable crisis had taken place at this time, the pain in the head or side would return, with sometimes a burning sensation at the stomach, attended with more or less nausea. Now the breast suffered the most distressing sensations from an incapacity to fill the lungs by inspiration—this was not prevented by acute pain, but a deadly suffocating pressure on the air vessels.

Notwithstanding the debilitated state of my patient, I again repeated the emetic, combined with

* Some patients of full and strong habits had a quick but weak pulse from the first attack.

calomel; the consequence was a dark green bilious emission from the stomach, and an evacuation of similar matter in vast quantities by stool. This never failed of restoring them to comfortable rest, but in the course of a few hours were again threatened with their former distress. This was corrected by small and often repeated doses of jalap and soluble tartar, which kept the bowels clear from the morbid matter as fast as it was poured into them, which in some cases was immense.

While pursuing the evacuating plan as above described, in this stage of the complaint, I found it necessary, to keep the patient from sinking, to administer laudanum with the sweet spirits of nitre, or vitrollic ether in small doses every two hours; with these medicines I found no difficulty in supporting them under the severest evacuations.

About the fifth or sixth day, the discharges became more natural, the appetite returned, and health was immediately restored by food.

The foregoing plan of cure has been pursued by me with little variation; and every case of this misnamed *terrible fever*, which has come under my observation, (except the patient who died in October,) has yielded to it; and none, except one solitary case, has been confined to the room beyond the ninth day. The last excepted case, was an old man,* who, I thought, for some hours, irrecoverably gone; the ar-

* This patient has since died—he had regained his appetite, and was gradually gaining strength—pulse good—*no fever*. While sitting by a very hot stove, he grew faint and languid—with some assistance walked to his bed—fell instantly into a state of perfect stupor, with his jaws firmly locked. I could not get medicine down—he continued in this situation 48 hours, and died.

teries, at the wrist, ceased beating for nearly half an hour. Large doses of laudanum and ether restored him. When a little revived, I administered a powerful cathartic, and ordered injections, which brought away large quantities of morbid, bilious matter.— This added to his relief, and he is now mending as fast as can be expected, from the low state he was in.

My friend, Dr. Bay, with whom I have frequently communicated on the nature of this disease, accords with me in the general treatment of it, and am happy that I can confirm its propriety by the equal success he has met with, having lost only one marked case, to which he was not called till some days after another physician had abandoned the patient.

Were I disposed to theorize on the *proximate* cause and effect of this disease, I should say, that the liver is the reservoir from which this noxious matter is diffused through the system; its deleterious particles entering the blood-vessels, contaminate that fluid, tend to destroy its vital principle, and of consequence, lessen the energy of the arterial system.

This appears to be evinced more particularly in the most alarming stage of the disease, when those symptoms appear, that have been called *Peripneumonic*, when the breathing is short and suffocating, and the face becomes livid.

Sometimes the vessels of the cheeks become turgid, and of a dark purple colour; denoting a want of *oxygen*, that *vital* principle of the blood, so necessary for the support of life. Hence, the universal langour, the almost instantaneous depression of strength and spirits, the want of nervous energy,

the perishing action of the extreme vessels, producing the most unusual and distressing chills, and the almost insensibility to external heat, when first attacked. All these tend, in some measure, to warrant a suspicion of these facts.

But this is mere speculation ; all we know is, that the morbid matter exists, and is creating from time to time ; that the effects are as I have partly described them, and that a speedy removal of this secretion is the only way to terminate the disease favorably.

The ill success attending the treatment of this disease is to be accounted for in two ways. First, by bleeding, and second, by administering great quantities of laudanum, brandy, wine or bark ; either of these stimulants, even in a moderate degree, must prove fatal, unless the stomach and bowels are kept free from morbid secretions, by emetics and purgatives.

If you intend to publish the above observations, permit me to add, that I have not the vanity to suppose, that they will enlighten any of my professional brethren in this city. Their experience must have been sufficient to have taught them the most eligible mode of treating the complaint.

I have made them to gratify your request, and if they should prove serviceable to any physician, in whose neighborhood this disease may hereafter make its appearance as a stranger, it will be to me a pleasing and happy reflection.

Yours, &c.

A. B.

Albany, 26th Jan. 1813.

N.B....It may be thought singular that I have given no name to this disease ; I hardly feel prepar-

ed to name it. I have found no disease in any Medical author that I have examined, that will justly correspond with it. It bears a strong resemblance to the gaol, bilious, or putrid fevers of authors."

The evening of the same day, on which I sent this communication, I lost a patient, and another the next morning.

I was not long at a loss to account for this misfortune—they were both in the latter stage of the disease, exercised with the most excruciating pains. I now had to receive my most important lesson in this complaint, though at the expense of my patients lives, viz. that *stimulants* were in no shape necessary, if not hurtful.

While their agonizing cries and the sympathies of their friends called on me for temporary relief, I administered laudanum and ether more liberally than usual. I found to my mortification, that the relief they gave was but transitory, and that they counteracted the intended effects of my evacuating remedies, which I administered very freely in anticipation of costiveness from the laudanum. I was disappointed—I felt confident much morbid matter was to be carried away, which was fully evinced in the last, but partial discharges, being of a dark color, similar to lie.

These two cases determined my future conduct. I had at this time two more patients in the same dangerous situation. I immediately withheld laudanum and ether, and depended solely on emetics and cathartics to alleviate the excessive pains and difficulty breathing; in this I was completely successful.

I made this fact known to Dr. Bay, who informed me that he had already become familiarized with it in two or three instances, in which the most moderate stimulants had a tendency to aggravate the disease, and that had he not discontinued their use, he believes he should have lost his patients.

Since the loss of the above two patients, I have not given a particle of diffusible stimulants, except a little warm spiced wine as a tonic, after the fever had formed a crisis, and the bowels assumed a healthy action. I have since this, also, had many with the most distressing symptoms, in all the variety of danger in which the disease has appeared in this city, and to this day (10th Feb.) have not lost another patient.

Having become more familiar with this disease since the foregoing communication, I shall enter more fully into a description of its symptoms, nature and treatment.

The **REMOTE CAUSE** of this fever appears to be *general*, being confined to no particular district, town, city or village.

The adoption of my former hasty opinion, that the remote cause at this time probably existed in the air, I must relinquish, for the more rational one adopted and suggested by Doct. Alexander Coventry, of Utica, who thinks that "the foundation was laid in the summer and autumn, and the latent enemy is now brought to light by different exciting causes.— It is well known to physicians, that the poison, which is the acknowledged cause of bilious fevers, may often long be borne, without producing its full effect."

The **EXCITING CAUSES** may be various ; intemperence in eating, or drinking spiritous liquors, fear, anxiety, exposure to excessive heat or cold ; in short, all the causes which generally bring on common colds.

The **PROXIMATE CAUSE**, appears to be a secretion of morbid, acrid matter, or vitiated bile. This secretion taking place in so large and important a gland as the liver, on whose healthy action the division and assimilation of our food depends, and the consequent purity of the blood, has a tendency to excite, create and accumulate the sudden, distressing and alarming symptoms, which, as it were in a few minutes, usher in this disease.

We know that when the liver is diseased or morbidly excited, that its secretions are thrown into the blood vessels, and circulate with their contents.— While this bilious matter retains its yellow color, the skin and eyes denote its existence in the blood, in bilious and hepatic diseases. If it will enter the blood vessels in its more pure state, we cannot deny it that power in its most acrid, dissolved and impure state.

Allowing this, we shall find the blood contaminated with this vitiated bile ; but we cannot take another step beyond this, without entering the large field of conjecture.

As all theories are mere baubles of the imagination, authors have been more or less successful in captivating their readers, as their imaginations were brilliant or plodding. I presume no one will envy my claim to the latter quality, and

permit me to imagine, that as the blood, by incontestable experiment has been proved to possess a great quantity of iron, and that the existence of this metal is essentially necessary to give it the capacity of oxygenation, which office is performed while passing through the lungs ; when the iron, from its great tendency to unite with the oxygen of the atmosphere instantaneously combines with it, and forms an oxide of iron which is said to give the red color to the blood—that hence it is carried through the system ; that the iron again parts with it to other elementary parts of the system ; that heat is evolved, and distributed to every part of the body, and that the blood now assumes a purple color, until that portion has returned to the heart to be re-oxygenated.

If therefore by any new combination of circumstances, created by the presence of morbid bilious matter, the iron should, from the formation of an unusual substance, have a greater affinity for such substance than for oxygen ; or should be so enveloped in this new combination as to be deprived in a great measure from the contact of oxygen, while passing through the lungs, we may perhaps be enabled to account, in some measure, for the existence of those distressing and unfavorable symptoms which mark the worst stage of this fever.*

* It may be objected, that this does not comport with the late ingenious *experiments* of Sir H. Davy, Menzies, Crawford, &c : by which it has been ascertained that the quantity of oxygen gas which disappeared in respiration, was balanced by the production of carbonic acid gas ; deducing from thence that the blood did not receive oxygen from the atmosphere.

While I am ready to admit the correctness of the *experiment*

By this deprivation of oxygen I shall account,

1st. For the *difficulty of breathing*, which is evidently an oppression, not an acute sensation—it is a sensation of a want of air to fill the lungs, and this sensation will undoubtedly be produced by depriving atmospheric air of part of its oxygen.

2ndly. For the *purple colour* of the face, and a similar cast over the whole surface.

3dly. For the *decreased temperature* of the surface, as well as a sensation of cold through the whole system, denoting a want of animal heat, which can only be furnished by a free circulation of oxygen with the blood through the system—And,

4thly. For the feeble, languid, intermittent and almost exhausted action of the arteries.

It is this state of the system which gives every appearance of malignity to the disease.

I should never have ventured the above opinion publicly, were I not convinced, that however hard

of these gentlemen, I am not bound to abide by their *deductions*. These experiments have not, nor could they from the nature of things, prove that the blood did not *part* with a portion of carbonic, saturated with oxygen, and at the same time unite with a portion of the oxygen of the atmosphere.

In allowing the blood to receive oxygen and part with carb. acid gas, we need not trespass on the bulk or component parts of respired air; they may be exactly as these gentlemen have stated from their experiments.

“It would be idle and unphilosophic to suppose, that a body so indispensable to animal life, and without which it is extinguished in a moment, should answer the great ends we witness, by being inhaled at one respiration, and expelled at another.”

its fate, hundreds stood ready to condole with me, and that I was relieving *misery* by its company.

This disease is confined to no particular stage of life. Every age and condition is liable to it, although, at its first appearance, children and old persons appeared less liable to it than the middle-aged and young, and men more than women.

PREMONITORY SYMPTOMS were not always discoverable. Sometimes a lassitude and indisposition to action, and erratic pains through the chest and sides, preceded the attack for a day or two, and sometimes the pain in the head and back were so light for two or three days, that the patient felt no disposition to make serious complaint.

The **GENERAL SYMPTOMS** of an attack of this fever are,

1st. *Cold chills*, which last but few hours, and are succeeded by,

2d. A degree of *heat on the surface*, little above natural.

3d. *Pain in the head*, arms, small of the back, and lower extremities.

4th. The blood vessels of the eyes preternaturally distended.

5th. *Tongue* pale and moist, with little fur.

6th. An uncommon degree of languor and debility pervading the whole system.

7th. More or less nausea and sometimes vomiting.

8th. *Pulse* weak, soft, and a little quicker than in health.

An increase or severity of these symptoms, pre-

monish an attack which forms the most serious state of this disease, in which case

The *chills* assume a degree of oppressive anguish to the suffering patient, which to some has been more intolerable than any other symptom, and recur frequently during the first few hours; many, however, do not suffer these chills to this excessive degree.

The *pain in the head* becomes more excruciating, and is not confined to one part; the forehead, back and sides are alternately affected.

The *eyes* feel heavy and painful, and their vessels become more turgid with blood, which gives them a dull red appearance,

The *face* exhibits a universal flush in those who in health were not marked with distinct red cheeks. Those who were, now have their cheeks more of a *livid* than red color.

A pain more or less severe in the *right side*, in the region of the gall bladder, passing up towards the neck, and settling between the shoulder blades:

Faintness, delirium, a suffocating sensation across the *breast*, with little or much difficulty of breathing, catching at half inspirations, as if the lungs could not be filled with air, not from a painful sensation, as in Pneumonic affections, but an apparent repugnance in that organ to inhale, as if the air were noxious or impure.

Tongue continues pale in most cases during the continuance of the fever, though in some few instances dry, (and then only for a few hours at a

time) and of a yellowish or light brown cast, *furtrifling*.

Pain in the *back* and *extremities* much increased.

A cough and difficult expectoration usually attend. The phlegm is in many cases accompanied with a little blood, but mostly only tinged with it, evidently owing to the violent exertion of coughing, and probably issues from small ruptured blood vessels about the throat.

The state of the *stomach* appears the same as in common bilious fever, being more or less affected with nausea at the commencement. Some vomit, others incline to vomit, or feel but the slightest degree of nausea. When the vomiting is spontaneous, the matter thrown up is invariably yellow or green colored.

The *bowels* exhibit nothing peculiar until acted on by medicine. When after the administration of one or two cathartics, they in some instances become extremely obstinate to their effects.

The *skin* easily disposes to moisture after the stomach and bowels have been well evacuated. I have found it unnecessary, in most cases, to encourage perspiration by warm drink; an additional blanket or two will suffice, if the patient does not readily sweat under the usual covering.

I never urge perspiration, but encourage it lightly when it appears spontaneous. I even question the necessity of this interference with nature.

The approach of *death* is, in some cases, indicated by a cessation, for many hours, of all distressing symptoms, respiration, instead of laborious, now be-

comes less difficult, though short and hurried, and seems to excite little uneasiness—the countenance and surface of the body livid, or of a lead color, resembling the body of a drowned person; the patient, and attendants unaccustomed to these appearances, are flattered with the hope of a recovery.

The *method of cure* which I have pursued in this disease, I shall state in a few words. When called to a patient labouring under the symptoms of this fever, my first prescription is, *in all cases*, an

EMETIC of tartarized antimony, sometimes combined with *ipecacuanha*, and sometimes with *calomel*. If this operates, the discharge from the stomach is in *every case* yellow or green bile in great quantities, sometimes mixed with or followed by, a whitish, slimy, compact substance. If it operates on the bowels, their discharges are dark coloured, mixed with green bile; and are generally *very fetid*. If the emetic does not operate as freely as I wish, I repeat the dose. I follow this prescription, notwithstanding it may have operated on the bowels, with a cathartic of jalap and calomel.

I hardly recollect a case in which a cathartic did not operate on its first exhibition. I have in no disease found the bowels more susceptible of being moved by a single dose in the first instance. The cathartic always produced copious evacuations of bilious matter, sometimes assuming the appearance of *lie*.—An additional dose on the third day of the disease, often cured my patients in the *milder attack*.

In the *severer attack*, I commence in the same manner, with first an *emetic*, and then a *cathartic*; if the symptoms become stronger or more violent, my ex-

ertions are proportionably so to evacuate the contents of the stomach and intestines.

If the patient grows weaker, and the symptoms do not abate, I repeat the emetic—this throws up in some cases, greater quantities of bilious matter than the first I administered. Relief invariably succeeds this last evacuation.

I now continue cathartics in smaller doses, but often repeated; for this purpose I have chosen of jalap and soluble tartar, equal parts; of this compound I give 20 grains every two or three hours, so as to keep the bowels in motion until the pain in the side and distress of breathing yield.

I have in many cases suffered my patients to take Lee's Bilious Pills, as a commodious substitute for this medicine, with equally happy effects, and have also derived benefit from the exhibition of Glauber's Salts,—which I continue in a limited degree until the evacuations change to a more natural colour; which is generally not till the 6th or 7th day.

It is very common for the patient, while in a state of apparent convalescence, to have suddenly a return of pain in the head, or side, and distress in breathing. I now again have recourse to a powerful emetic, and this relieves the patient immediately after its operation; the discharges are as copious, and to appearance as bad, as they were in the first stage. These pains always indicate a collection of morbid matter, and their continuance or recurrence always demands a perseverance in the remedies prescribed.

I have not, since the 26th of January, given *any other medicine* in this disease than *emetics* and *cathar-*

tis. My whole attention is confined to a removal of the morbid bilious secretions which are unquestionably collected, and continue pouring into the gall bladder—probably giving rise, by distending that viscus, or its neighboring ducts, to the pain in the right side.

I have not found it requisite in any case to use medicinal tonics to restore my debilitated patients. Whenever the bowels and liver resume their natural and healthy action, the appetite returns, and food becomes the best and most natural tonic, beginning with weak soups, and gradually proceeding to more solid substances.

In corroboration of the justness of these remarks, and the success of the mode of cure adopted in this practice, I shall state the following circumstance.

Doctor Miller, a physician who practices in Greenbush, and in the immediate vicinity of the camp, called on me about the first of January, to know my opinion as to the most eligible mode of treating this fever; he told me he had then two patients he was fearful of losing; he had at first freely evacuated the contents of the stomach and bowels, and was now giving them the usual diaphoretic medicines, but they were hourly sinking under the most alarming symptoms.

I stated to him my opinion of its nature, and the plan I had adopted for its cure. He availed himself of the information, pursued the evacuating plan, and saved his patients; since which time he has continued the practice with equal success.

He lately informed me that he visited a patient

whose life had been despaired of, and who was apparently expiring ; he had laid for twenty-four hours speechless, and without the ability to move a limb, and appeared in the last and expiring state of typhus fever. His attending physician from this city had pronounced him irrecoverable, having previously advised to give him as much *brandy toddy* as could be got down.

In this desperate situation, Dr. Miller gave him a dose of calomel and jalap ; it speedily operated as an emetic and cathartic ; the discharges were nearly black, and in immense quantity—the man revived ; the Dr. continued the evacuating plan, and has cured his patient.

It is not without pleasure and pride that I am enabled to add the names of Doctors William Bay and Peter Wendell, two of our most respectable physicians, in support of the practical observations contained in this essay. Our communications have been reciprocal on the subject of this disease, from its commencement.

Its nature and proximate cause we have never differed on, nor its method of cure. I am indebted to them on this as well as on many other occasions, for much valuable practical information ; which from their accurate observations and deservedly extensive practice, they have been enabled to acquire, and which they have communicated with a candor and liberality worthy of the profession.

I believe the time is not far distant, when experience, if not *theory*, will reduce, (with few exceptions)

the whole materia medica, to the two simple articles EMETICS and CATHARTICS.

These, either separate or combined, will become the only dependants for the most inveterate or malignant diseases. They will be exclusively and successfully employed in *fevers of every grade, under every condition of the system*; and there is as much probability of a unity of remedy, as “unity of disease.”

I have for the last three years, depended principally on purgative medicines for the cure of fevers.—I have cured several cases of protracted Typhus fever, bearing all the unfavorable appearances it is susceptible of in our climate, with *cathartics only*. Strange as it may appear, I have ventured on this exhibition under every *appearance* of dissolution, with perfect success, when on former occasions, and under similar circumstances, my whole dependance had been on the most powerful stimulants, such as bark, wine, opium, musk, camphor, &c. In this I followed the theory and practice of the day; the practice of the greatest and best men of our profession.

It was in my hands as it had been in theirs—if the system could *bear the shock*, the patient *recovered*—if not, he——yes, he died!

In the foregoing remarks, I have given only a general history of this disease. Its particulars are as various as they are unimportant in the general treatment. Its general character I have given as faithfully as I could pourtray it, in this, and my former communication.

I might add many important cases to elucidate the

truth of my remarks, and insure confidence in the practice recommended ; but as I have stated the only cases in which I have failed, and the general success which followed the total abandonment of stimulants, I think it would be superfluous to swell these remarks with additional facts of little if any practical importance.

I have on a former occasion said that I was not prepared to name this disease, having found in no author that I had read, a just description of it.

As diseases are generally named from some prominent symptom that characterizes them, I have not hesitated to entitle this a bilious fever ; and from its being epidemic, the “ **BILIOUS EPIDEMIC FEVER.**”

It has been contended that this fever has been faithfully described by Sauvages, Sydenham, Huxham, and other ancient writers, under the several names of Pneumonia, Peripneumonia Notha, Winter Fever, Peripneumonia Typhodes, &c.

That the above diseases, as described by the different authors, have more or less symptoms appertaining to the prevailing fever, I do not question.—It is a fact well known to physicians, that almost all fevers have more or less a similitude of symptoms.

I have said that the symptoms of this disease partook of the bilious, gaol, and malignant fever, but more particularly of the latter ; and I do not hazard a contradiction when I state that the symptoms of malignant fever are more strongly characterized in this fever than the symptoms of either Pneumonia, Peripneumonia Notha, or Peripneumonia Typhodes ;

and were it necessary, I could prove that these several forms of diseases had some peculiar and well defined symptoms, which have never occurred in any case of this fever that has come under the observation of our physicians, and are totally inconsistent with its nature and effect.

That the affection of the lungs in this disease is not primary, but symptomatic, appears to me as clear as the sun at noon day.

Whenever the biliary secretions and excretions are removed by an emetic or cathartic, the oppression on the lungs immediately yields or vanishes. I have found this affection perfectly under the command of these remedies, and I believe it does in no case exist when there is not an accumulation of these secretions. In many marked cases of this fever that symptom does not exist at all.

In bilious fevers of a malignant tendency, the lungs are not unfrequently affected in this manner.

Dr. JACKSON notices it in his treatise on the fevers of Jamaica. He says, *Bilious fevers* occur in Jamaica, which are distinguished by local affections, or increased determination to particular parts in a degree so remarkable as to *personate very exactly a peripneumony*, a hepatitis, or inflammation of the bowels; the accompanying fever being at the same time so slight, as scarcely to be considered a primary affection."

Dr. RUSH remarked those pneumonic symptoms in the *bilious* yellow fever in 1793; he mentions that many were affected with them, and some *appeared to*

die of sudden effusions of blood or serum in the lungs.

Difficulty of breathing is mentioned by Hippocrates, Galen, Van Swieten, &c. as well as modern writers, as accompanying *bilious*, malignant, or putrid fevers.

The great affinity this disease has to the malignant fevers of ancient and modern authors, will be seen by the following descriptions.

HUXHAM says, a severe fixed pain is felt in one or both eye-brows. The eyes always appear very full, heavy, yellowish, and are often a little inflamed.—The countenance more dead coloured than usual—The prostration of spirits, weakness and faintness are very often surprisingly great and sudden. The respiration is most commonly laborious.

Few or none of these fevers are without a sort of *lumbago*, or pain in the back and loins; always a universal weariness or soreness is felt, and often much pain in the limbs. The stools, especially near the state, or in the decline of the fever, are for the most part intolerably foetid, green, livid, or black, &c.

GRANT describes malignant fevers as coming with chillness, succeeded by heat, quickness of pulse, sickness of the stomach, pain in the head and loins, restlessness, thirst and anxiety; but they have one symptom peculiar to themselves, a dejection of spirits and failure of strength far beyond what might be expected from the violence of the other symptoms, and short duration of the fever when not attended with malignity. This symptom, however, frequently arises from pletheora, or turgid matter in the stomach.

BROOKS, in treating of those fevers, says the ancients called them continued, quotidian, serous fevers; that at the beginning of this disease, the face of the patient has a morbid aspect, and he is out of order three or four days before he takes to his bed.—He complains of a spontaneous weariness, a grievous pain of his body and joints, as if his bones were bruised or broken. His strength is languid, his appetite is lost, he has a slight fainting fit, a cardialgic nausea, a pain in the head, an unquiet sleep, with costiveness. In the evening there is a coldness and shivering, followed by heat—the symptoms increase—there is a great loss of strength.

The pain in the head grows worse, with a giddiness and inquietude. Some have a violent pain in the back, others in the side, the pulse contracted, quick and weak, anxiety about the pectoria, and the *breaking difficult*.

WILSON describes malignant fever as coming with a troublesome head-ache, acute pain in the back, loins and extremities, which often resembles a rheumatic affection; a distressing sense of weariness, much thirst and nausea, sometimes attended with a burning pain of the stomach, more frequently by vomiting, vertigo, dimness of sight and numbness of the extremities.*

These authorities have been introduced not from an intention to support what I had formerly said on the subject, but merely to shew that the prevailing fever has a stronger similitude to the bilious, malignant, or putrid fever of authors, than to either the de-

* This symptom I should have mentioned as occurring sometimes in the prevailing fever.

terminated or mixed pneumonic affections, and wants less strong characteristics to make it the former than the latter.

The method of cure also adopted for the former complaint, with hardly an exception, comports with the most eligible mode pursued in the treatment of this complaint, while pneumonic affections of every description are treated with more or less exceptions to this mode ; or rather the mode of cure adopted for pneumonic fevers are exceptionable in this fever.

Two communications have lately appeared in our public Journals, purporting to give a history of the prevailing epidemic, and the mode of treating it.

The first was from Dr. Mann, Hospital-Surgeon, who has undoubtedly had the best opportunity of ascertaining the nature of the disease, and whose experience may have enabled him to point out the most successful mode of treating it.

The second was written by Dr. John Stearns, and made its appearance under the sanction and at the request of the State Medical Society, at their session in February last.

It may appear presumptuous in me to make any remarks on these productions, particularly on the first ; as its author has, I am informed, obtained *two Boylstonian prize medals* in Massachusetts, for the *best* dissertation on medical subjects ; but its singular and new doctrines induced the enquiry.

On the second I was induced to remark, on account of a difference of symptoms described from any I had met with, and some observations which I thought

not altogether pertinent to the disease. Its sanction by the State Medical Society, gave it an importance demanding, in my opinion, the observations I have taken the liberty to make on it.

Since the publication of this essay, in February, I have been informed that one of these gentlemen has complained of the *illiberality* and *unfairness* of my notes. This complaint might have had some colour of reason to support it, had I only given extracts from, or garbled their publications. I gave them *entire*, that the public might judge of the *fairness* or *liberality* of my notes.

If they wanted either of these qualities—if they were as my learned friends represented them, destitute of sense and science, surely they should not have been alarmed. They must be aware that it is not in the power of ignorance or imbecility, to injure the productions of *superior genius*.

Instead therefore of discovering this ill-timed sensibility, and venting their injudicious spleen, they should have been gratified with the promulgation of their doctrines and opinions, and pleased that the hand *presuming* to correct, had but maimed itself in the attempt.

They should have been satisfied with the belief that I had betrayed my own ignorance and blazoned my own folly, while they were left to receive the plaudits of the public, and to enjoy that proud pre-eminence to which their superior talents had so justly entitled them.

Having *amended* my notes, I hope to hear no more complaints on that subject.

The following letter from Dr. Mann, was published in the Albany Register on the 29th of Jan. 1813.

TO DR. BENJAMIN WATERHOUSE, *Boston.*

DEAR SIR,

At the time of making the statement which first appeared in the Vermont Centinel, respecting the sickness among the soldiers of the army at Burlington, and which was made public with the sole view of counteracting false and exaggerated reports, it was my intention, when more at leisure, to give in detail, a particular history of the disease, not only as it appeared at Burlington, but at other cantonments of the army.

The prevailing epidemic is denominated by nosologists, PNEUMONIA. (a). Its attacks are made under the various forms of *sthenic* and *asthenic* diathesis, while those varieties of the disease mostly depend upon the habits established prior to the attacks. In many of the first cases, among the soldiers at Burlington, the disease proved fatal in a few days—in some instances, within twenty-four hours. The following are the most prominent features of the disease, under its most deadly form: Heat of the body below the standard of health, extremities cold, pulse contracted and hard, not so hard as is usually found in pleurisies, which indicates the necessity of bleeding—respiration very laborious, not apparently from sharp pains through the sides and breast, as from a sense of suffocation. When asked, the patient says that he does not feel much pain, but a weight upon the chest, an oppression arising from inability to inhale the air; a sensation, one would imagine, similar to that which might be produced by breathing atmospheric air deprived of its oxygen. (b). This suffocation, accompanied with small pulse and general coldness, may be the consequence of some condition of the lungs, which renders that organ incapable of absorbing through its membranes, in due quantity, the vital principle of the atmospheric air, or its oxygen. There is often a copious expectoration of glairy (c) viscid phlegm, some-

times uniformly coloured, or streaked with blood, while no relief is procured by its discharge from the bronchial tubes.

The above form of disease is the PERIPNEUMONIA NOTHA of the ancients ; and it is not unworthy of notice, that it generally falls upon those who are in habits of intemperate potations of spiritous liquors. Upon laying the chest open to view, after death, there is the appearance of inflammation upon the lungs, and congestions within the vessels of that organ, with adhesions to the circumadjacent parts, without suppuration, its surface covered with a yellowish, gelatinous, semi-putrid extravasation ; its spongy texture is lost, and assumes, in some measure, the firm compact state of the liver. (*d.*) The physician, in the above described cases, hesitates, and cautiously employs his lancet. (*e.*) These cases, however, are few, compared with the multitude seized, which generally proved fatal under every method of treatment ; while a fortunate administration of stimulants, in a solitary case of the disease within my knowledge, induced by an indiscriminate use of them, a most deadly practice. (*f.*) Such a practice was introduced for a short period, by a physician who was called to attend the sick, at a time when the physicians of the army were overburthened with numbers. Could you have believed, that at this enlightened period, brandy and wine in profusion, with soups, were the remedies principally depended upon by him, in every form of these pneumonic affections ? (*g.*) However, prior to the employment of stimulants, an emetic and cathartic were administered—blisters were employed—the lancet forbid (*h*) by him under every form of this formidable epidemic. It has been already observed, that cases occurred where the physician hesitates and doubts the propriety of bleeding. The cases under this type are not one in twenty. It is worthy of notice, that in two, which came under my observation, where blood letting was cautiously employed, the accidental opening of the orifice during a

restless night, procured so much relief, even a solution of the fever, as led to a persuasion that in some instances, where the disease had proved fatal, bleeding had been employed with too much timidity.

In one case, the patient apparently sinking under the above form of the disease, seemed to be rescued from the grave by six grains of opium, administered in divided doses of one grain every two hours, and a tea-spoonful of æther every half hour. The same treatment in other similar cases, was not attended with the like success.

In all cases of the above form of the disease, blisters are employed upon the sides, breast and back; in some these seemed to be of use. Where the body is torpid and cold, sinapisms, warm and heated applications to various parts of the body, especially to the lower extremities, are necessary.

It is proper to observe, that neither the stimulant, diaphoretic, nor depleting method of treatment, is but seldom (*i*) accompanied with success, in the most violent forms of the disease. Its progress is rapid, and assumes in a few hours, the strongly marked symptoms of approaching dissolution. And it may be added, that even where suffocation with a rattling is commenced, and the heart ceases to perform its office, that the muscular strength of the patient is not remarkably impaired. (*k*) Several have been seen to walk the room a few hours before death.

Much the largest number seized with this extensive epidemic, are under a *sthenic* form, which strongly marked symptoms of inflammation, and require the depleting and antiphlogistic method of treatment to its full extent. (*l*) Stimulants here, evidently hasten the patient into the first described fatal state of the disease. At the first attack, with strong arterial action, pains through the sides and breast, much heat, difficult respiration, little or no expectoration, and this tinged frequently with blood, bleeding is employed, from one to two pints. (*m*)

It is often necessary to repeat the operation. In a few instances two quarts have been drawn from the arm of the patient in the course of the fever, with good effect. A cathartic of jalap and calomel, or calomel *per se*, is then administered. This, it is found necessary to repeat in some cases ; but, as the disease is frequently accompanied with diarrhœa, drastic purges are employed with caution. (*n*) The diarrhœa, at times, is so profuse, that cathartics are not indicated while it is necessary to check these alvine discharges by opiates. The diarrhœs which accompany this fever are not critical ; they are not checked as the fever abates, except by opium ; remaining obstinate for a long time even after the return of the appetite. (*o*) After bleeding and cathartics, under this form of pneumonia, calomel in small doses, combined with opium, is administered with benefit ; and where a gentle spitting is produced by its employment, pain in the breast is mitigated, or abates, laborious respiration subsides, copious and laudable expectoration and moist skin supervene. To promote these last, Vin. Antimo. and Elix. Paragor. prove an excellent medicine. When the Antimony occasions too frequent evacuations by the bowels, small and repeated doses of Pulv. Doveri. are substituted. When after the inflammatory state of the disease is in a measure removed, more especially, where nausea and anorexia (*p*) exist, emetics of Ipecac, are advantageously administered. Blisters, in the course of the disease, are indispensable to remove stitches in the breast and sides, after blood-letting is carried to its proper extent ; believing with others, that there is a blistering, as well as a bleeding, and emetic period in fevers, the bounds of which being ascertained, should never be intruded upon by each other. (*q*) As this disease has not been confined to the soldiers of the army, but has made its attacks and ravages in various places, about the same time, over a very extensive tract of country, it may be fairly inferred, that its spread far and wide is not the consequence of its contagious nature, any more than

it is the effect of severe duty, negligence of officers, want of the necessaries of life, as it has appeared among the soldiers, as has been repeatedly represented in the public papers. It may be viewed as an epidemic produced by some latent cause—an unknown state of atmosphere, and like all extensive epidemics, is more severe and fatal to such as are unavoidably, and in many instances, imprudently, exposed to various additional exciting causes. (*r*) Those who have attended to the progress of epidemics, may have observed, that among thousands who have been subjected to their influence, that a few have been treated with severity by the disease, and some have fallen victims to its rage; while the deaths which have occurred, might be imputed much less to the nature of the epidemic, than to the various exciting causes which co-operated to produce its mortality.

The first, perhaps, in all cases, cannot be avoided; while the exciting causes, giving to the disease a severe or fatal form, is within the ability of man to obviate.

Among the various exciting causes productive of a severe disease, under the present epidemic, only one will be noticed, viz. an intemperate use of ardent spirits. It is a fact, well known among the physicians of the army, that the disease has been fatal mostly among the men who are in habits of great intemperance. It has been also ascertained from various sources, that this disease has been most severe and fatal among that class of citizens who indulge in spiritous potations.

It is a vulgar and mistaken opinion, that the use of spirits secures the body from the attacks of disease, and fortifies it against cold, or its effects. So far from effecting either of these, ardent spirits aggravate the injurious consequences of cold, and frequently predispose the body for the reception of a disease, under its most severe and perhaps mortal form.

Is it not a singular fact, that no notice is taken of the prevailing epidemic, and its mortality, among the citizens, by the sev-

eral printers, when with much avidity they swell their columns with exaggeratnd reports of the disease, and its disastrous effects among the soldiers. Since it is well ascertained, that less in proportion to numbers who have been attacked with it, have become victims in the army, than among the citizens, (*s*) although the last are better accommodated in houses, less crowded than hospitals, and surrounded by friends for nurses, generally more assiduous and attentive to their wants when sick, than soldiers, who are bound to each other by ties less strong than those of consanguinity.

It is a new and singular circumstance, that soldiers are more subjected to disease than citizens, independent of latent atmospheric agents, as causes !

When it is known, that more than 4000 soldiers have been seized with this epidemic, will it appear strange and mysterious that many deaths have occurred, and the officers (*t*) not be implicated among the causes of the disease and its fatal event—when citizens are daily falling under its effects in towns and villages far and wide, in every district of the country.

After being acquainted with the above facts, will it appear candid or ingenuous to state that the physicians of the army are *ignorant*, more *ignorant* than the physicians of the country? Are not the means of information open equally to all? Were not the physicians of the army educated at the same schools with the citizen practitioner? Did not government, out of a flood of applications, select and appoint those who had the fairest pretensions? (*u*)

The communication is concluded by observing, that there is no essential disagreement among the physicians of the army, respecting the nature of the prevailing epidemic and method of treatment, (*v*) That it is not a new disease, as has been represented by some, the physicians of the army are all agreed.—Perhaps it would be invidious to say, that the epidemic is represented a non-descript (*w*) by some physicians, as an apology

for the want of success in the management of it. In consequence of the swelled accounts of the deaths in the cantonment at Green-Bush, where there were from 1500 to 3000 during the summer and autumnal months, and through which more than 7000 men have passed since the month of May, and at which place have been left all their sick, and many of their convalescents, while passing, it may be necessary to state, that the whole number of deaths at this post, from that period to the present, does not exceed eighty-five, (x)

With much respect, I am, &c.

JAMES MANN,

Hospital Surgeon U. S. Army.

DR. BENJAMIN WATER- }
HOUSE, *Boston.* }

The following communication was published in the Albany Register, on the fifth day of February, immediately after the adjournment of the State Medical Society.

The following Remarks, on the prevailing Epidemic, by JOHN STEARNS, M. D. were read before the Medical Society of the State of New-York, at their late meeting, and published at their request.

ALTHOUGH a few sporadic cases of the epidemic, which now prevails in this city, and the country adjacent, made their appearance in the fall, it was not till the middle of December last that it began to be much noticed. From this time, it gradually increased to the present period.

The symptoms which characterize this disease, are,

1st. Cold chills, which, in some instances, continue 24 hours, and are sometimes succeeded by a temperature, equally distributed over the surface; while the face and trunk of the body are of a heat higher than natural, and considerably flushed, the extremities are cold. In some instances the chills are but slight; the violence and danger of the disease, are generally proportioned to the length of the chills. (1)

2d. Great and general prostration of strength, frequently accompanied with fainting.

3d. Extreme pain in the head, thorax, and sometimes in the extremities, (2) accompanied with dyspnoea and hurried respiration. When the pain assails the head with severity, it generally terminates in delirium. (3) The pain is sometimes severe in the back part of the head and neck, but generally affects the forehead, producing an extreme soreness in one, sometimes in both eyes. When the pains are not violent, the patients complain of a vertigo, and a dull, heavy sensation in the

head, with an oppression at the stomach, nausea, and sometimes vomiting.

4th. The tongue is generally, at first, dry, and covered with a white furr, which, as the disease advances, is in some instances, converted into a dark brown. (4)

5th. In violent cases, the face appears tumid and livid; the eyes are remarkably protruded, exhibiting a yellow aspect. (5)

6th. The urine generally flows in large quantities, and is sometimes very high coloured. (6)

7th. The pulse in the incipient stage is small, weak, tremulous, and in some instances suspended. (7) As the cold stage subsides, the pulse rises; but seldom to a degree of natural strength or fullness—it appears to labour under a violent oppression—is often irregular, and generally slower than natural. (8)

8th. The stomach is generally loaded with a vast quantity of gelatenous slime, which in tenacity resembles the white of an egg. (9)

9th. When a diarrhœa does not usher in the complaint, the bowels are torpid and extremely costive; ordinary cathartics seldom produce their customary effects. (10)

10th. A cough, with an expectoration of yellow mucus, tinged with blood, in some instances commences with the disease; as it advances, clear blood is often discharged from the lungs and nose. (11)

12th. A viscid sweat (12) is generally thrown out upon the surface spontaneously, which is never critical, and if copious, is always injurious.

This viscid fluid is not confined to the surface. The salivagastic juice, and indeed every secreted fluid participates of the same disposition, and evinces a morbid affection of the whole secreting system. (13)

The preceding phenomena indicate the existence of a disease entirely unknown in this section of the country. (14) It appears to participate of two distinct and opposite natures—

pneumonia and *typhus* A peculiar constitution of the atmosphere appears to predispose the system to a typhus fever, under circumstances peculiarly favorable to the production of pneumonia. Hence that state of disease induced, which may be denominated *Typhoid Peripneumonia*, or *Pneumonia Typhoides*; (15) a disease which, in some respects, strongly indicates the free use of the lancet, and in others the liberal administration of stimulants. (16) Hence originates a contrariety of treatment, which experience has proved to be very injurious to the patient. While some bleed copiously, others resort to the most powerful stimulants. (17) When the prominent and opposite symptoms of this disease are nearly balanced, prudence would dictate the use of neither of these classes of remedies—while depletion increases the symptoms of the typhus, powerful stimulants produce delirium, and aggravate all the fatal symptoms of pneumonia. It is only when one of these classes of symptoms clearly and distinctly predominate, that either of these remedies are ever proper. Indiscriminately to condemn both in all stages of the disease, therefore, evinces an imperfect knowledge of the complaint, and is the height of absurdity and presumption. (18)

This is the same disease which prevailed in some parts of this and the eastern states during the last winter, and is exclusively confined to this season of the year. (19) It prevailed in England in the year 1685, and was faithfully described by Dr. Sydenham, under the name of the winter fever, (20) which in a subsequent treatise, he denominated the new fever. In attempting to account for the origin of the fever, he traces its causes to the plague, which had preceded it, a few years, and of which he considers this as completely “depuratory.” Since his time we do not find it described as prevailing in any country till the year 1811.

“Doctor Macbride considers it as a mixed fever, and terms it *febris hyemolis*. Sauvages, a species of *Synochus*, and

names it *synochus hyemolis*, though he thinks it merits more the denomination of *catarrhalis*. Both these authors have taken their account from Sydenham. Dr. Cullen classes it as a variety of the Synocha or inflammatory Fever. Huxham, in his observations *de ære et morbis epidemicis*, describes a fever, which he says nearly resembles this : and Dr. Swan thinks the mild catarrhel fever of Hoffman, which that author so accurately describes, and treats with so much judgment, bears to this a great similitude." WALLIS.

After premising this brief sketch of the symptoms and history of this disease, I shall proceed to examine the remedies which have been prescribed.

1st. *Bleeding*. This, as I before observed, is extremely hazardous, unless symptoms of Pneumonia or Synocha decidedly predominate ; and even in this case it should be used with extreme caution and in small quantities ; otherwise the Typhus tendency of the disease prevails, and the patient sinks and dies. I have seen but one case in which it was indicated, and in which case I took but four ounces. (21)

Letters from eminent practitioners in some of the counties where it prevailed last year, inform me, it was occasionally practised there with success. This was the practice of Sydenham, and is used by many the present season. (22)

2d. *The warm Bath*. In this disease the blood recedes from the surface and extremities, accumulates in the large vessels, and completely oppresses the action of the heart and arteries. A universal coldness and frequent chills consequently pervade the whole surface of the body till the torpor of the extreme vessels is overcome. (23)

The first indication of cure is therefore to restore action to the surface and extremities, and thence to preserve the equilibrium of the circulation which has been entirely destroyed.

This indication is successfully answered by the total immersion of the body in warm water, in the incipient stage of the

cold chill. (24) If the warm bath is applied at this early period, the disorder is effectually subdued in 48 hours : but if delayed till the cold stage is considerably advanced, its operations are less efficacious.

Immersing the extremities in warm water, and general fomentations to the surface, may be substituted when the warm bath cannot be procured. This should be continued till the chills have entirely subsided ; it should then be discontinued, otherwise the copious sweats thereby induced, will debilitate and sink the patient, or accumulate the morbid heat of the system, and thence induce delirium. (25) Warm diaphoretic teas should accompany the use of the warm bath.

3d. *Emetics*. When the head is affected with pain or a vertigo, or a dull heavy sensation, accompanied with an oppression at the stomach, or a nausea and vomiting, an emetic is indispensably necessary. It invariably ejects a quantity of cold, viscous slime, (26) which resembles in tenacity and colour, the white of an egg. If this fluid is not evacuated, a torpor of the stomach and bowels ensues, which enhances the danger of the disease in its progress, and essentially impedes its cure.

When the emetic has been given early in the disease, and its operation proves effectual, the preceding symptoms readily yield ; but if they continue obstinate, the emetic may be repeated and succeeded by

4th. *Cathartics*. Calomel or calomel and jalap, if given early in the disease, and repeated as the symptoms may require, soon obviates the obstinate costiveness of the bowels, and restores their natural tone, by evacuating their extremely offensive and debilitating contents. (27)

5th. *Diaphoretics*. Although profuse and long continued sweats are evidently injurious, as they induce debility without in the least promoting a crisis, yet a naturally soft and moist state of the skin is always accompanied with a mitigation of the pain, and ought ever to be encouraged. To promote this ob-

ject I make a liberal use of Snake Root, Sage, Boneset or Hemlock Tea, and every four hours, or oftener if necessary, give a powder very similar to Dover's. To this powder I sometimes add calomel, if the pneumonia symptoms do not readily yield.

6th. *Epispastics*. When the pains in the thorax are violent, and respiration difficult, and do not yield to spiritous fomentations, I generally apply a large Blister to the breast or side. In most cases tho fomentations will succeed alone, and are more efficacious than blisters.

7th *Demulcents*, (28) occasionally combined with opiates, are necessary to alleviate the cough and pains of the breast.

This course of treatment will generally promote a crisis in five days, and sometimes sooner; but should the disease be protracted to the typhus stage, the remedies usually prescribed in that type of fever then becomes necessary. (29)

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On Doct. Mann's Letter.

(a) This is certainly inconsistent with the Doctor's subsequent *theory*, where he gives it as his opinion that the difficulty of breathing is owing to a *want* of oxygen. Nosologists consider Pneumonia an inflammatory disease—Now, as inflammation is necessarily attended with some heat, the existence of oxygen is as necessary to produce it. Can the Doctor refer us to the nosologist who has described Pneumonia with “asthenic diathesis, heat of the body below the standard of health, extremities cold,” &c.

(b) If the Doctor should take the trouble to compare the prominent symptoms of Peripneumonia Notha, (as he afterwards styles the form of this disease) as laid down in the best and most popular authorities on the subject, with the symptoms he has described, I fancy he will find an *essential* difference.

(c) Has the Doctor ever seen a glairy substance that was not *viscid*?

(d) Where are we to look for a single case in the annals of medicine, where a subject, who died with Peripneumonia Notha, “was laid open to view after death,” in which were discovered “adhesions” to “*circumadjacent* parts, the surface of the lungs covered with a yellowish, *semi-pulred* extravasation, and assuming the compact state of the liver.”?

An opportunity has never been afforded me to examine a subject who died of Perip. Notha, nor have I ever been able to discover those facts from the history of medicine; and I believe authors do not generally allow that “adhesions of the *circumadjacent* parts,” &c. take place; but they do take place in those who die of bilious, gaol, or putrid fever.

(e) According to the above appearances, discoverable on dissection, the disease must be of a highly inflammatory nature—If so, why hesitate to use the lancet? Stimulants will not

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answer in such a case ; and if the patient is to be cured at all, it must be by depleting or antiphlogistic remedies.

(f) This last sentence is totally incomprehensible by me.

(g) Why not the use of these stimulants, when the Doctor has himself described the symptoms of the disease to be “ heat of the body *below* the standard of health, extremities cold, pulse *contracted* and hard, not so hard as is usually found in pleurisies, which indicates the necessity of bleeding—*respiration* very laborious, not apparently so much from *sharp pains* through the side and breast,” &c. Under such circumstances I think I should have preferred brandy to the lancet, particularly as the physician complained of by the Doctor had, “ prior to the employment of stimulants, administered *emetics* and *ca-thartics*.”

(h) A proof that this physician had not yet been “ *enlightened*,” or he would have forbid the *use* of the lancet, in doing which he would have acted perfectly right ; I only regret that he had not laid the same restrictions on stimulants.

(i) Of course they must very often be *successful*.

(k) This is undoubtedly a singular fact, and could have been discovered only at this “ *enlightened period*,” that under a state of suffocation and rattling, and a *cessation of the action of the heart*, the muscular strength should not be *remarkably* impaired !

(l) I am apprehensive the Doctor has been led into an error in considering this disease to be in most cases *inflammatory* or *sthenic*, but from what deceptive appearances I cannot conceive, unless he has mistaken the *weak, small* pulse for a suffocated, *stifled*, or tense pulse, and the oppression on the lungs as a primary affection, and highly *inflammatory*. That he has been deceived by some appearances I am induced to believe, from the circumstance that of about all the cases that have occurred in my practice and that of other physicians, of whom I have made enquiry, not a single case of *sthenic* diathesis has

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been met with, or where we could have justified the use of the lancet.

(*m*) How can this practice be reconciled in a disease that has such strong tendency to "Peripneumonia Notha?" May it not, in many cases, have brought on that "deadly form" of the disease in which he advises the lancet to be employed with caution?

(*n*) May I be permitted to question the fact, that Peripneumonia Notha "is frequently accompanied with diarrhoea?"

(*o*) This diarrhoea must have been peculiar to the soldiers, as I have neither seen nor heard of it among our citizens.

(*p*) I cannot conceive how these two symptoms can exist at the same time; the one is a *loathing of food*, the other, a want of appetite *without loathing of food*.

(*q*) That there are *periods* at which these prescriptions become necessary, has not been doubted by physicians from the days of Hippocrates to the present time; but that it should be considered an *intrusion*, to bleed or vomit a patient while under the action of a blister plaister, or to use all these remedies in the course of half an hour, in a case of pneumonia, "with a strong arterial action, much heat, difficult respiration, pains through the sides and breast, nausea and anorexia;" If, I say, this should be considered an intrusion, the best physicians have been guilty of it, even "at this enlightened period."

(*r*) If I understand this sentence, I think it means that those who are most exposed to the exciting causes of this disease, are most liable to it.

(*s*) I wonder from what data the Doctor has discovered this fact?

(*t*) The Doctor has here forgotten what he before stated, "that its spread far and wide is not the consequence of its contagious nature, *any more* than it is the effect of severe duty, *negligence of officers, &c.* Neither do I believe that the officers have been "implicated among the *causes* of the disease, which the Doctor states to be "latent atmospheric agents."

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(u) The Doctor was appointed Hospital Surgeon, ergo, "he had the fairest pretensions;" and who will presume to doubt the fact from the specimen before us, and the *invariable success* of the above mode of treatment at the different cantonments and on the lines?

What is meant by those who "had the fairest pretensions?" I suppose we are to understand by it, those who had the greatest talents, and the best economy in the disposition of the hospital department. The first wants *no proof*; the latter we shall give a *proof* of—as it is at least of *secondary* importance in the Medical department.

That judgment and economy were exercised in laying in Hospital stores, is fully evinced,

First, In the purchase of barrels of Madeira Wine, Spirits, Molasses and Oat-meal in *Boston*, and transporting them in waggons to the cantonment at Green-Bush, *within one mile* of the city of Albany.

Second, The purchase of a superb set of instruments for the Hospital at Green-Bush, to perform the operation of *lithotomy*!

Third, In the transportation of *bags of Flax-seed and Indian-meal* in medical chests, from *the city of Philadelphia*, for the northern army!

Fourth, In having the weight of a medical chest for *one Regiment*, not to exceed between 1800 and 2000 pounds. Some ill-natured economist might say, it ought not to have weighed more than 60 pounds, unless he was informed that it contained 200 pounds of *Gentian-Root*, and a proportionate quantity of *Orange-peel* and other articles of equal importance.

This proves to a certainty, that the President and Secretary at War were *not imposed* on, although they had to make a "*selection for the fairest pretentions*, out of a flood of applications."

(v) Here the Doctor is certainly mistaken, for no one who reads his account of it, will hesitate to pronounce it a *non-descript*.

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(x) "It may be necessary to state" also, (and from good authority) that *not half* the number of the sick at the cantonment in Green-Bush, were subjects of the prevailing epidemic.

This was an unfortunate calculation for the Surgeon; for if we allow that one sixteenth of the whole 7000 had been sick, and one half of this number with the prevailing fever, two out of every five must have died: but I presume he will hardly claim half this number: and if so, it does not plead much in favour of his mode of treating this *inflammatory* complaint.

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On Doct. Stearns's Communication.

(1) I am surprised that the Doctor has confined himself in this article to such symptoms as appear only in *some instances* and *sometimes*; for instance, for the cold chills to last twenty-four hours, is a very uncommon symptom. It appears somewhat anomalous withal, that "the face and trunk of the body" should be "of a heat *higher* than natural," and the "extremities *cold*," while a temperature is *equally* distributed over the surface."

That the danger of the disease is proportioned to the length of the chills, is a fact that has escaped my observation.

(2) The word *sometimes* might, I believe, with much propriety have been left out—for no symptom in this disease is more uniform than pain in the *extremities*.

(3) I never discovered this fact in any of my patients.—Whenever delirium did occur, which was in but few cases, it was but slight, and of short duration, but pain in the head did in no instance *terminate* in it.

(4) And *some* of these *instances* are very uncommon. The public requires the prominent and strongly characterized symptoms of this disease; and if the physician chooses at the same time to add symptoms which *sometimes* occur, it is undoubtedly well and proper: but it is embarrassing to physicians to be informed of the rarest and least consequential symptoms of a disease, while the most marked and important ones are left only for the imagination to conceive. A *moist tongue* at the commencement, and in almost every case during the continuance of this fever, is one of its strongest characteristics. In many of the worst cases that I have attended, the tongue has continued moist throughout.

(5) I have as yet met with no case of *protrusion* of the eyes.

(6) This may, in *some instances*, be the case, but the first of these symptoms I have not discovered. My enquiries have induced me to draw an opposite conclusion.

(7) This may have happened in *some instances*, but belongs

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not to the usual symptoms of the complaint. I have in only *one instance*, met with a cessation of arterial action in the wrist, for some time ; I considered it however no *symptom* of this disease.

(8) This is given as a *general* symptom ; I must confess I have not observed it in a *single instance*.

(9) As the substance of this paragraph is given as a *general* symptom, I shall take the liberty to differ with the Doctor.— In all the cases I have had, I have, with less than ten exceptions, administered Emetics ; and in a majority of those repeatedly, and in every such case, bilious matter was ejected from the stomach.

But I have in no case found the stomach loaded with “*gelatinous slime*.” Sometimes we found a little mucus accompanying the bile, but have never considered it of much note.

I have enquired of other physicians concerning this “*gelatinous slime*”—they say they have not met with it.

(10) I have not met with this unfavorable state of the bowels, and never knew them more susceptible to the action of a cathartic at the commencement of any disease ; but as might be expected, after repeated cathartics, they became less susceptible of the action of Jalap, or Jalap and Calomel, which are generally made use of in the first instance. This, however, was remedied by changing the cathartics to Glauber’s Salts, or an infusion of Senna leaves and Manna ; and by alternating these with the first, I had very little reason to complain of the obstinacy of the bowels.

(11) The tinged expectoration I do not recollect to have seen at the commencement of this disease, but generally, when it did happen, appeared about the third or fourth day.

But that *clear* blood was *often* discharged from the lungs and nose I should have doubted, had the assertion come from almost any other than this respectable source.

I have indeed met with one or two instances where, from the

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violent exertion of coughing, one or more blood vessels of the throat or nose discharged pretty freely.

(12) I dont remember of having ever seen viscid *sweat*.

This viscous fluid (sweat) the Doctor informs us, is not confined to the surface! I wish he had pointed out where else it was to be found. This is a paradox.

(13) By what process this discovery was made, is beyond my comprehension. How the Doctor obtained the gastric juice to ascertain this fact, I am equally at a loss to account for, unless he has taken greater trouble on himself than I think he has.

The discovery also of the morbid affection of the *whole* seer-ning system, must be pleasing, new, and unexpected to physiologists of the present day.

(14) I do perfectly agree with the Doctor that, "the preceding phenomena indicate the existence of a *disease entirely unknown* in this section of the country;" and might with safety add, "or any other country on earth."

(15) Whenever I can conceive the existence of a *hot-cold* day, or a *black-white* sheep, I may possibly be able to believe in the existence of a *Synochal Typhus* or "*Pneumonia Typhoides*."

(16) As the symptoms described by the Doctor, and the practice he pursues, contradict either "the free use of the lancet or the liberal administration of stimulants," it cannot be the disease he alludes to, in which he says both these remedies are at times indicated: If the Typhoid Peripneumony requires such treatment, and Sauvage, who was the first who treated on this complaint under that name, says it does, then certainly this disease cannot be the same.

(17) If so, it is perfectly consistent with the above opinion, that "the disease in some respects indicates the free use of the *lancet*, and in others, the liberal administration of *stimulants*."

(18) As I have condemned both, I feel the full force and *vir-*

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tue of this denunciation. But what is to be done when the "prominent symptoms are so nearly balanced" that "prudence would dictate the use of neither of these classes of remedies?" The patient is here left *suspended* between a Pneumonia and Typhus, without any advice for his relief—his situation must be truly singular.

(19) This disease is *not* confined exclusively to this season of the year. It would be "*absurd*" and "*presumptuous*" in me to think so, while it is universally known that several died of it at the Camp in Green-Bush, the last summer and fall, as well as in the western counties of this state.

(20) If that is a faithful description of this disease, then the *Typhoid Peripneumonia vanishes*. Let Sydenham speak for himself.

1. "Paroxisms of heat and cold succeeded alternately for a day or two after the beginning of the fever: 2. A pain in the head and limbs, and an universal restlessness accompany it: 3. The tongue is white: 4. The pulse much the same as in healthy persons: 5. The urine turbid and high coloured: and 6, The blood like that of pleuritic persons: 7. It is also generally attended with a cough, but not with *such a difficult* respiration, straitness of breast, and so violent a pain in the head in coughing as ordinarily happens in a bastard peripneumony. Hence this fever has *none of the distressing and capital symptoms* of a peripneumony, though it differs from this distemper only in degree: I call it the *winter fever*."

In the next paragraph Sydenham says, "for this fever being naturally *highly inflammatory*, cordials, &c. add to the inflammation of the blood," &c.

Dr. RUSH, in a note on Sydenham's Winter Fever, says, "that it accords with the *catarrh*, from the sensible qualities of the air, which is common in the winter and spring months in the United States."

This *winter fever* then answers equally well for Dr. Rush's "Catarrh" and Dr. Stearns's and Sauvages' "Peripneumonia Typhoides."

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(21) This does not look much like a "*Typhoid Peripneumony* or disease, which in some respects, *strongly* indicates the *free use* of the lancet," &c. The Doctor seems to have found but *one* case in which it was indicated, and then cautiously drew only a *precious* four ounces of blood, and of consequence all the other cases must have been of the "Typhoid" kind, which require the "liberal administration of stimulants"!

(22) And yet the Doctor did not dare venture bleeding in more than one case, and then only four ounces. Can this be Sydenham's *winter fever*?

(23) If, as is here stated, "in this disease the blood recedes from the surface and extremities, accumulates in the large vessels, and completely *oppresses* the action of the heart and arteries," then *in every such case* there is not a question as to the propriety of bleeding. These are all indubitable symptoms of too great or inflammatory action: and there is among physicians but one opinion as to the remedy.

But how the Doctor can reconcile the above state of the system with the symptoms described at page 48, symptom 7th, where he states the pulse to be *small, weak, tremulous*, and in some instances *suspended*? There is such an opposition in the two paragraphs, that I am unable to reconcile them with each other.

(24) I have not resorted to this remedy in a single case, therefore shall give no opinion on it, nor on the different *stages* of a "cold chill.

(25) From what symptoms has the Doctor deduced the existence of *morbid heat*? Heat may be of a greater or less degree, but that heat in itself is *morbid*, I am not disposed to assent to; but that it may be an *agent* in producing morbid effects, I shall not dispute.

The quality of this new kind of heat, it seems, gives it the power, when "accumulated in the system," of "inducing deli-

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rium." Another discovery ! But the Doctor seldom strikes the *rock* of his genius in vain ; the luminous *streams* of science issue from it with refulgent splendour, and dazzle almost to blindness.

(26) This *invariable* ejection of *viscous slime*, resembling in tenacity and colour the white of an egg, has as *invariably* escaped my observation, and that of other physicians in this city, as emetics have been administered. I do not presume to deny the fact as stated by the Doctor, but I only deny its occurrence in any of my patients.

(27) I should prefer having the disorder "effectually subdued in 48 hours" by the "warm bath"—to undergoing these "offensive and debilitating evacuations"—if I could.

(28) In this "enlightened period," there is little faith put in demulcents, those ancient *obtundens* of acrimony ; I doubt their efficacy in this disease.

(29) It is singular, that as the Doct. has found in the course of his practice only *one case* where "symptoms of Pneumonia predominated," and in so trifling a degree as to venture on the abstr action of only four ounces of blood, and that consequently we are to consider that in all his *other cases*, the "Typhoid state was predominant," he should here conclude with a reference for its *cure* to such remedies as are *usually administered in Typhus fever* !

This concluding paragraph is however an epitome, a *multum in parvo* of all that has preceded it.

FINIS.

