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SCHOOL OF MEDICINE
ACCOUNT

OF THE

EPIDEMIC YELLOW FEVER,

WHICH PREVAILED IN

NEW ORLEANS

DURING THE AUTUMN OF 1833. ✓

By EDWARD H. BARTON, M. D.

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1834.

DEDICATION.

TO GOVERNOR ROMAN,

R. RELF, W. F. C. DUPLESSIS, A. DUCROS, A. MORPHY,

M. W. HOFFMAN, F. BUISSON, ESQUIRES.

Administrators of the Charity Hospital, New-Orleans.

GENTLEMEN—I know none out of the profession, to whom I could with so much propriety, dedicate the following pages, directed to an investigation of one of the severest afflictions to which your city has been ever subjected, as yourselves, ardently engaged in the management of one of the finest institutions in the world, conversant, like ourselves, with human misery, in which your noble Hospital was steeped during the period to which these pages refer, you are made competent judges, not only of the truth of the description, but in many respects, of the verity and results of the treatment, and of the propriety and appropriateness of the remarks upon the other modes of treating this disease. Our frequent subjection to yellow fever, in Louisiana, has, at least, this advantage, if no other; it multiplies the judges of professional skill, and the propriety of professional treatment. Diverging from the beaten tract in the management of this disease, because the principles applied were not in consonance with the advanced state of science, and the results were afflictive to humanity; searchers after the truth, which has been our only aim, a few of us, influenced by the great success which has followed the application of physiological principles to the severest diseases of this country, have been induced to apply it to this *opprobria medicorum*; years now have sanctified its adoption, it can no longer be *villified* as “innovation,” and that success has followed its application, your attention is invited to the results recorded in these pages, to show.

If equal success shall always follow our footsteps and attend our exertions, the bugbear “yellow fever,” will no longer desolate your dwellings, nor thin your population; acclimation to all the blessings and recommendations of your alluring country, will

rather be sought for than avoided, and we shall speedily realise the prediction of a distinguished Professor, that New-Orleans might be made the "Montpelier of America."

But, gentlemen, I must apologise to you for this lengthened trespass upon your notice, unknown as most of you are to me, even by sight, I have yet the advantage of knowing you by the best of all means, *by your works*. Your devotion to the best of all occupations—charitable attendance on the sick—has, and will call forth the thanks and blessings of the destitute widow, and houseless and penniless stranger; and the pleasing reflection of the benefits conferred upon the unfortunate, will lighten and cheer many an hour of your future lives. But I have another cause to thank you, your encouraging protection and fostering care of our infant Medical College, does honor to your discernment, and reflects credit upon your intelligence; it too, should the fond wish of its founders be realised, will lighten the burthen of the afflicted, drive empiricism from your doors, remove the stigma of professional incompetence, and shed the blessings of our divine science upon our abused and misunderstood country.

With the highest respect and esteem for you, gentlemen,

I remain, very respectfully,

Your fellow citizen,

E. H. BARTON.

New-Orleans, November, 1834.

PREFACE.

Fully impressed with the weight of the following valuable observation of Lavoisier, "we ought, in every instance, to submit our reasoning to the test of experiment, and never to search for truth, but by the natural road of experiment and observation;" I submit to the profession and the public the result of my *experience* in the most violent and malignant of the Epidemic Yellow Fever, with which this city has been ever visited.

To do this properly, it was requisite after giving a brief topographical notice of the locality, to precede it, by a short account of the morbid precursors of the disease, both in the atmosphere and in the system exposed to it: the accompanying meteorological constitution is faithfully recorded, the whole of the morbid condition is traced, even, I trust, to the satisfaction of the most careless observer, to the involvement of the Gastro Intestinal Mucous Membrane. The influence upon this important membrane is farther shown by a physiological analysis of the symptoms—"the mere evidences of things unseen," it is proved by the pathological condition of the organs, during life and after death; it is farther evidenced by the treatment responding to the preconceived condition, (for we must admit to a certain extent with the Father of Physic, "Naturam Morborum ostendit curatio) and emanating from principles based upon the Physiological and Pathological language of the organs: the *Methodus Medendi* of the agents employed is fully explained, and the immortal Rush is referred to as corroborative of our new views, who foretold in the spirit of prophecy, the important introduction of Capillary Bleeding, in remarking that the "period would arrive, when the only question will be, from what part of the body these evacuations should be procured;" and the importance of a CONTINUED DRAIN from the external sympathising capillaries, is, I trust, fully proved as the most important and safest mode of treating this and other desperate diseases; and I may merely add that the principles have been successfully extended to the treatment of cholera. It must be obvious that in any similarly severe disease, where the Gastro Intestinal Mucous Membrane is in like manner involved, and in such a Pathological state as to create a want of reliance, or confidence in its susceptibility to curative medications, or to create a doubt as to the propriety of revulsing upon it, for

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the relief of other parts, this is the best and safest substitute for an action upon the secretions, always uncertain, while this is at all times under our controul and at hand: Cases in illustration are given in extenso, to test, as well as to prove, the correctness of the views entertained.

In corroboration of my views upon this subject, I next proceed to other modes of treating yellow fever, for the sake of comparison, state the principles and expose their want of soundness, prove the danger of the mercurial and purgative, and the insufficiency of the mild diaphoretic and expectant plan. Will these modes bear the scrutiny of a philosophical analysis? Will the pre-supposed data or condition of parts constituting the disease, proved by a physiological and pathological analysis of symptoms, satisfy an inquiring mind? the only ground upon which the enlightened physician *dare* to prescribe, to avoid the extensive dominions of empiricism: I say, does the treatment *result* from this? Is the one a philosophical deduction from the other?

I have some right to speak upon the important subject of the mercurial practice. I was early taught to look with reverence upon its "herculean powers;" I was brought up a believer in the Hunterian doctrine of *substituting one disease* for another. Nineteen years of professional experience and observation, fifteen of them in a country where the actions of life are performed with a rapidity and activity and impairment of energy, which does not permit us to wait the tardy process of curing *TWO DISEASES*, have convinced me that the theory of cure in diseases of this climate consists in a mode of treatment, which shall tend *directly* to remove or destroy existing or morbid action, *without substituting any other in its place*. These views result from an analysis of the principles of the mercurial treatment, as now understood by the profession. The object alledged is plainly confessed to be, to produce a *predominant action*, and as there can be but one action in the ascendant at a time; it must be substituted for the existing action, and as disease consists in an undue or irregular action of some part, the mercurial action to supercede it, must produce an action that is *greater*, if the powers of the living organism will support or be susceptible of a greater. This depends upon the intensity of the *first*, the period of the disease and the energies and stamina of the constitution. *It may not bear a greater*, it may not be consistent with its life, (hence mercury is so rarely applicable to the severest cases of disease.) Here then are *two diseased actions*, the original and the artificial, the latter, when predominant, the constitution is not always competent to remove, the establishment being at the expense of vital action; this is the result of painful experience, and is perfectly in consonance with all we know of the animal economy; when it does occur, the constitution must suffer from its consequences as from the ravages of any other *disease*; I say *DISEASE*, because any remedy that would have such an intensity of action ceases to be a therapeutic agent. Here then, besides the loss of time in the *experiment* to know whether it will suit, whether it is applicable, whether it can accomplish our purposes in the pro-

posed substitution, we permit the patient, first, to suffer from the original disease, secondly, from the struggle between the two, and it is often a long time doubtful, each, often, alternately having the ascendancy, and thirdly, from the ARTIFICIAL DISEASE. And I defy any one to tell a priori, whether any patient will survive this; there are no data but a preconceived condition of things, almost always hypothetically assumed, of which there *can be no certainty*. But under any circumstances, there is but one thing which *is certain*, and which tells sooner or later, *it is injury to the Constitution*, whether the patient survives or not. I conclude then in stating my belief with regard to the Mercurial treatment in yellow fever, that a case that can be cured with it, can be cured without it, saving too the constitution and the jeopardy of life.

But the great mass, in and out of the profession, are Humoralists, (offensive as most would deem the accusation) the almost forgotten doctrines of the olden times—the long slumbering hypotheses of a former age, are awakened to strut their hour again upon the stage—the atra-bilis of the ancients still haunts the imaginations of the great unthinking multitude—the moral of the story of the “three crows,” is no longer fanciful—the eternal offending “bile,” to which every thing is converted—the “diseased secretions,” or some humour of some kind, is the everlasting excuse for the prescription that almost constantly overlooks the physiological and pathological condition of the individual, and seems to suppose that the mucous membrane of the stomach and intestines, the primary seat of the important function of nutrition, of the internal senses, &c. is totally devoid of sensation. The system is not yet exposed—the *system of prescribing for names and not for things*. “You will find some practitioners, (says one of the most distinguished and experienced physicians in the British empire, Dr. Stokes) they are becoming fewer in number every day, who seem to have but two ideas—the one a purgative—the other a potful of fœces, —but the connecting link, the gastro enteric mucous membrane, that vast expanse, so complicated, so delicate, so important, seems to be forgotten.” “Inflammation,” continues this eminent man, “of the mucous membrane of the stomach and bowels, and perhaps of the lungs, are not to be overcome at once by the lancet; the only cases in which you can expect to cut short an inflammatory attack, are those in which the parenchymatous tissue of an organ, or its serous membrane is affected. This is a general and important law. You will often be able to cut short a hepatitis, or a pneumonia by a single bleeding, but you will not, by the same means, be able to repress a bronchitis, or an inflammation of the mucus membrane of the intestines. If you bleed in gastritis, bleed at an early period, but not too largely, or with the expectation of cutting short the inflammation, but in order to prepare your patient for the grand agent in effecting a cure, *local bleeding*.”

Some remarks have been made in the text with regard to the influence of temperature. From the experiments of the celebrated Edwards on physical agents, it is conclusively demonstrated, that continued elevation of temperature, *diminishes the power of producing*

heat, whilst an opposite state of the atmosphere, provided the cold be not too severe, increases it, and hence the long continuance of our summer temperature, renders us much more subject to be influenced by the first occurrence of cold weather. The peculiarity of the type late in the Fall, has been noticed—the deficiency, but what is still more dangerous, the *irregularity* of re-action—simulating debility, producing a prostration, so liable to be misunderstood;—such is, in fact, the type of all our autumnal fevers; delicate subjects always feel very sensibly the first impression of Northern winds; its fatal influence upon those very sick, has been well remarked and much dreaded. With regard to the meteorological observations, they could have been extended by adding to them the hourly observations made from day break to 10 P. M. by students in my office, and occasional notices at midnight; this would have been done, had the latter been constant, for occasionally I found a difference of from 2 to 5 degrees between midnight and day break, the supposed coolest time, certainly very remarkable and unusual, and probably causing the frequent occurrence of the disease at that time, (midnight.) I consequently made an effort to procure a regular series, and for that purpose supplied the commander of the city guard, (whose duty it was to be up at these hours) with a thermometer and blank register, but from the imperfect manner in which it was kept, no important results are to be deduced from them, and I did not think it necessary to incumber these pages with them, already too much extended.

The remarkable coincident occurrence, if not influence, of the East winds on this pestilence, has been remarked in the text, and its connexion with other forms of pestilential diseases in various parts of the world, and at different periods, could have been much extended had it been requisite—the *modus agendi* is not ascertained—its influence is well known to experienced men.

From the general course of reasoning, as well as some of the special causes assigned, as producing the great mortality of this fever, a strong argument may be inferred in favor of temperance: where the rules of Hygiene are neglected, the laws of sound physiology broken by perpetual stimulation of the gastric surface, we can easily conceive how this continued excitation should furnish a ground work for the ravages of this fever. Could yonder grave yards speak, the language would be misunderstood by none—how many isolated memorials remain—skill is exhausted—science applied to in vain—intemperance sits like an incubus upon its victim: hence the witty saying of Voltaire, has more of truth than jest in it; he defines “a physician to be an unfortunate gentleman, who is every day requested to perform a miracle, namely, to reconcile health with intemperance.”

It is to be regretted that the table of mortality is not more full of *details*,—such as it is, the cost of labour and time to me has been immense, and could scarcely have been accomplished, but with the aid and assistance of my intelligent and indefatigable students, Messrs. Delavigne, French and Goreham. We are wonderfully badly off for

statistical details in this country; it is impossible to procure the necessary data to compare the past with the present—we cannot tell our present relative condition—we know not from any records, whether the sanative or morbid condition of the country is advancing,—we know not the actual effects of the climate upon emigrants from any section of the world,—we know not the rateable proportion of births and deaths. There are no records of the *diseases* that are fatal—we do not know the ages, country, or even the *number* of the deaths! In what other part of the christian world is there such indifference to information upon their situation and prospects? And what is the inevitable result? As an estimate of the future is only to be deduced from a knowledge of the past, we have a profound ignorance of the climate, whether upon the native population, or the stranger who visits our shores—a reputation abroad which hinders emigrants from populating our fine fertile region, and enjoying our invaluable commercial privileges, and prevents the inestimable advantages of the country from being known. We have no board of health, to warn our citizens of the approach of danger—to prepare them for the contest with disease, to show its nature and mode of treatment, or to assure us of the departure of the foe. Now these things should not be—your intelligent faculty will not, I am sure, shrink from any labour or sacrifices, to put you in the possession of the necessary information, and it is time, high time, to wipe off the stigma of Southern apathy and indolence.

It is hoped that the views entertained in this paper, will be candidly and fairly examined by my brethren—always among the foremost to detect error, and the first to benefit by the light of truth and knowledge. And when I appeal to my brethren to examine these views, I am fully sensible of the difficulty of ridding the mind of preconceived notions and surmounting the prejudices of education and habits. It has been well observed, “that when we have once tied up our ideas into bundles, the trouble, the difficulty, the shame of rectifying them, is felt even by superior minds.” “Sir,” said Dr. Johnson, “I don’t like to have any of my opinions attacked. I have made up my faggot, and if you draw out one, you weaken the whole.” I trust a similar experience to my own will lead to similar results, for “there can be no self conviction without self observation.” Its principles have been successfully tested on the banks of the Ganges, and amidst the jungles of India—on the shores of the Mississippi and of the Savannah, in the West Indies and in South America, and in every latitude of our widely extended country. Innovation here, then, should not be plead to extenuate or to depreciate; neither age nor authority can sanction error, and however hoary time may have made them, life is too precious to trust it to weapons antiquated by the rust of ages, or unsanctified by the intelligence of the day. A new era has sprung up in the human mind,—we have grown wiser from the errors of our predecessors. Prejudice *now* is a weapon only wielded by the ignorant and unprincipled: Galileo, at the age of seventy, would not *now* be punished for having proved the motion of the earth; Democritus would not *now* be treated as insane, for attempting

to find out the cause of madness by dissections—nor the philosophic Socrates be forced to drink the juice of hemlock, for having demonstrated the unity of God. This age still feels the reproach, that no physician in Europe, over forty years of age, would admit the great discovery of Harvey, of the circulation of the blood, who lost his practice in consequence. The philosophic spirit of the age, now requires a reason for every thing—the age of authority simply, and of established routine, is passed—they have always been the means of opposing the progress of reason and stumbling blocks to the advancement of natural truths, and the prosecution of new discoveries. Can it now be said that a physician cannot err in the opinion of the public, if he implicitly obeys the dogmas of authority—“Marcus dixit? ita est.” What else could have upheld the preposterous system of Galen for more than thirteen centuries, and have enabled it to give universal laws in medicine to all the then civilized world? The same may be said of each succeeding theory, (but the limits of a preface, preclude my entering into them) and particularly of the blind system of administering mercury, so far as they arise from *mere authority*, to the exclusion of the convictions of rationality, and unfounded upon the laws of life. We have arisen in a new period—obscurity no longer supplies the place of science—the improvements of mind outstep even the anticipations of fancy—we are not permitted any longer to slumber, while all the world is advancing with gigantic strides in the *onward progress* of improvement. “Progress,” says the philosophic Spurzheim, “is the supreme law of the human mind.” A science like ours, distinguished by the spirit of her votaries, who have ever been in the vanguard of intelligence of the age, will not be the last to be impelled *onward* by the SPIRIT OF THE AGE, and well may we exclaim in the eloquent language of Bossuet, while a voice is exclaiming inexorable from behind us, “La loi est prononcée; il faut avancer toujours. Je voudrais retourner sur mes pas : marche, marche ! Un poids invincible nous entraîne; il faut sans cesse avancer.”

New-Orleans, March, 1834.

ACCOUNT
OF THE
EPIDEMIC YELLOW FEVER, &c.

NEW ORLEANS is situated in latitude $29^{\circ} 57'$, and longitude west from Washington $13^{\circ} 9'$, on the left bank, and in a large bend of the Mississippi. It is ten feet and a half above the level of the sea, from which it is distant in the course of the river about one hundred miles, about sixty miles in a south west, and about forty in an eastward course. Five miles north of it is Lake Ponchartrain, which receives the drainage of the city and superfluous waters of the vicinity through the Bayou, St. John, &c. The inclination from Levee street in front, to Rue Marais in the rear, is about eight feet three inches. The city is fanned by the delightful sea breeze from the south west every morning, which is the harbinger of health whilst the prevalent wind. The river rises about fourteen feet, and generally reaches its maximum elevation late in March or early in April. The level of the city is several feet below high water mark, and it is protected from inundation by an embankment or levée three feet and a half high, which extends about five miles along the river, and about two-thirds of a mile back to the swamp. The city is built upon a soft alluvial soil but a few feet above the water in the wells, (dependent upon the state of the river,) the dampness is consequently very great; the streets are filthy, and but partially and badly paved. In the body of the city, ($\frac{1}{3}$ th of the whole area,) water is made to run constantly along the gutters from the river to the swamps during the summer. In 1830 the city contained about 46,310 inhabitants, exclusive of a floating population during the winter and spring months of from 15 to 20,000; increasing on an average of near $2\frac{1}{2}$ per cent. per annum, and hence containing in 1833, 53,234, making altogether about 70,000 inhabitants.

The prevailing diseases of *January, February, March, and April, 1833*, were decidedly intestinal—diarrhœa, dysentery, and many cases of cholera.

During *May* the range of the thermometer was 18° ; maximum be-

ing 88; minimum 70, and average of the whole month 78.42. The range of the barometer was .30, the maximum 29.70, minimum 29.40, and average 29.74. Winds principally from the S. W.; quantity of rain 6.22 inches. The character of the diseases continued to be decidedly intestinal, with a great tendency to run into cholera from neglect or improper treatment.

In *June* the range of temperature was 25°; the highest being 94; lowest 69; average 82.09. Barometric range .43; the maximum being 29.75; minimum 29.32; average 29.62. Rain 6.22 inches. Winds steadily from S. E.; in latter part of the month more S. W.; weather raw, disagreeable, and particularly so when the cholera reached its height, about the 8th, when there occurred a heavy fall of rain, with much thunder and lightning, soon after which the wind veered round to the S. W. and W. the disease gradually declined. The epidemic strongly impressed its character upon most diseases of the month, uniting its symptoms with those of other diseases, as cramps, or rice water discharges, with ordinary symptoms of bilious fever—or the peculiar coldness, or the vomiting, with a *great* and *indeed* excessive sensibility of the *alimentary canal*, with liability to run into diarrhœa upon the least change of temperature or transgression in living. This disease was indiscriminate in its attacks, with regard to age, sex, or colour, selecting those whose equilibrium of constitution was deranged or thrown from its balance from intemperance or imprudence of *any kind*, or from change of diet—*always* however with premonitory diarrhœa, ranging in its duration from six to forty-eight hours, and running into collapse in from three to twenty hours. The disease finally lost its intensity and prevalence with the changes in the condition of the atmosphere.

The thermometric range in *July* was 19°; highest 90; lowest 71; average 81.13. Barometric range .25; maximum, 29.82; minimum 29.57; average 29.70. The prevailing winds were S. E. and S. W. Weather showery; the fall of rain but 3.3 inches: the city again became pretty healthy, though great liability to take on intestinal disease on change of weather to cold and damp, and with east winds, and during the highest range with cold nights, bilious fever.

During *August* the range of the thermometer was 19; the highest being 90; lowest 71; average 79.97. The barometric range .27; the maximum 29.79; minimum 29.52; average 29.58. Rain 8.17 inches. The winds in early part of the month mostly S. W. and N. W.—a few days from S. E. The weather showery; days and nights hot and oppressive; the thermometer often at 10 and 12 P. M. and at 1 A. M.

as high as 81, 2, 3, and 4! a height of temperature, at night, unprecedented in this country, where the summer nights are usually as cool and pleasant as in any part of America. Before the middle of the month the wind got round to the eastward, and continued blowing fresh with a high thermometric range, the weather very oppressive and showery, and from the streets there arose a very offensive odour. In the second week the yellow fever broke out, and continued increasing until it reached a daily average of thirty cases. Its type was mostly malignant, with great determination to the head.

During *September* the thermometric range was 21; the highest being 88; lowest 67; average 77.57. The barometric range .23; the maximum 29.73; minimum 29.50; average 29.60. Rain 5.50 inches. Winds regularly E. and S. E. until 21st, when they came from the N. continuing three days; thence returning to S. E., E., N. E., blowing all the time *very fresh*. The weather being exceedingly disagreeable and raw—during the first week rain almost every day, and producing an influence on one's feelings beyond the temperature and moisture, there being a great deficiency in reaction in the cases: during the second week more hot and oppressive; temperature at night 79 and 81. The diseases during this week were more mild and manageable, though the number of cases was not diminished. During the third week the weather was more pleasant, though warm for the season—the winds shifting, but never getting west for more than an hour or two; the number of cases lessening, probably from fewer subjects, but strangers came in, and added somewhat to the mortality. The disease now participating more of the type of our usual fall fever, with symptoms of deeply radicated gastro-enteritis, with comatose tendency. In the latter part of the month some intermittent fevers, diarrhœa, dysentery, and a few cases of cholera.

During *October* the thermometric range was $39\frac{1}{2}$ —the highest being 80; lowest $41\frac{1}{2}$, and average 65.53. The barometric range .43; maximum, 30.03; minimum, 29.60; average, 29.75; rain, 3.5 inches. The weather has been during the first week very pleasant, some cold mornings, but middle of the day hot. Winds N. W. to N. E. and E. The disease became more mild, the type somewhat changed; eyes not red; tongue less white on surface, but edges more deeply red, and sooner become dry; fever continues longer, and skin more obstinately dry. Some of intermittent and remittent type; the cold weather found very injurious to the sick. The weather continued rather warm to the 18th, and then gradually cooled down on the 22d to $41\frac{1}{2}$, when there was perceived a slight frost in several parts of the

city, and some ice was seen, the winds changing from S. E. and S. to N. W. and N. and still blowing fresh. There has been no calm throughout the season. The disease continued notwithstanding several frosts, though mostly confined to new-comers, and particularly steerage passengers. The wind in the latter part of the month occasionally from its old quarter, S. E. and E. and N. E. and high; dust very oppressive from the long drought. The type of the disease continued to change from the ardent character of the first part of the season; no great external heat and with a particular disposition to run into a protracted form; not the same force and activity of the sympathies; there did not seem such an urgent demand for activity of treatment. Disease mostly confined to steerage passengers and strangers generally.

The thermometer's range during *November* was 50—the highest 77; lowest 27, average for the month 55.03. The barometric range .53; maximum 29.97; minimum 29.44; average 29.73; rain 2.40 inches. The winds in early part of the month S. E. and E. temperature, very pleasant. It changed about the 10th or 12th, the day preceding the splendid meteoric phenomenon of the falling and shooting stars, to N. and N. W. and seldom was E. again. The disease gradually disappeared—during the first week some cases at first wanted none of the symptoms of the epidemic, notwithstanding the frosts which were unusually early and severe; and in the latter part of the month much of bronchial irritation developed itself.

During *December* the thermometer's range was 44, the highest being 72, lowest 28, average 56.65. Barometric range .53; maximum 29.93; minimum 29.40; average 29.68; rain 3.71 inches; the winds very variable, N. E., N. W., S. W., &c. It has been an unusually cold month, rains frequent, and hail the size of a musket ball on the 13th. Bronchial irritations and inflammations the prevalent disease, with a few cases of scarlatina and cholera.

As precursory to the dreadful scourge which followed, it becomes me to mention several enlargements of the inguinal glands, occurring without the least suspicion of venereal contamination, similar to those mentioned by authors as premonitory of the existence of mortal epidemics; also several cases of menorrhagia. The streets throughout the city were filthy, exhaled a peculiarly offensive odour after rains, and generally so at night. There was much sickness with horses, cattle, and swine in the country.

The country throughout was unusually sickly; crops fine; fruit bad. Weather during autumn beautiful, air cool, delightful atmosphere,

exhibiting the brightness of an Italian sky, as has been so often remarked during our severe epidemics; early and severe frosts, which destroyed near one third of the brilliant prospects of the husbandmen, combined, with other causes, to make the year the most disastrous, we have ever experienced.

We have seen the description of a distinguished French traveller (Chateauvieux) strikingly realised this season in our city during the greater part of the autumnal epidemic, and indeed the same has been often remarked in our epidemics. 'No visible signs,' says he, 'marks the existence or approach of this pestiferous air. The sky is as pure, the verdure as fresh, the air as tranquil, as in the most healthy region. The aspect of the elements is such, as should inspire the most perfect confidence, and it is impossible to express the horror which one experiences on discovering, that all this is deception, that he is in the midst of dangers, of which no indication exists, and that with the soft air he is breathing, he may be inhaling a poison which is destructive to life.'

DIEMERBROECK, (on the authority of a number of writers; and the same has been remarked by Dr. RUSH and many others,) observes that an uncommon abundance of insects, for many years has been noticed to portend pestilence, and we accordingly remarked here, that the flies and mosquitoes particularly, were unusually numerous preceding the epidemic—the latter continued throughout the season.

From the preceding succinct and general medical and meteorological history of the year, it cannot have escaped attention that the precursors of the malignant epidemic of the season were gastro-intestinal affections of every grade and severity, from simple extra-sensibility of the gastro-intestinal mucous membrane, to the malignant cholera running its course in six hours. The evils resulting from this epidemic constitution of the atmosphere, and the predisposition to the malignant yellow fever that afterwards occurred, was greatly aggravated by the adoption of the advice so generally given, to live high and drink freely of brandy, &c. to prevent an attack of cholera.

The *local causes* of the epidemic are numerous, some of them so nearly affecting the habits and prejudices of the people, that they have been pointed out in vain, and I therefore forbear extending the limits of this paper by enumerating them.

I may be permitted to say however, that if the same intelligence, zeal and persevering industry, belonged to the police, that characterises the commercial community generally, they would be speedily and effectually removed. In closing this part of my subject, I cannot too strongly recommend those sanitary precautions which are under the controul of every one, which are so peculiarly and impressively applicable in this climate, where with great delicacy and susceptibility of constitution arising from a long continued range of high temperature, there is increased liability to disease from their non-observance, and which are so eloquently recommended to us in the following impressive passage from the venerable RUSH. "Were I to enter a city," says he, "and meet its inhabitants under the first impressions of terror and distress from the appearance of yellow fever, my advice to them should be—BEWARE—not of contagion; for the yellow fever is not contagious—nor of putrid exhalations, where the duties of humanity and consanguinity require your attendance, but BEWARE OF EXCITING CAUSES."

Violent epidemics are usually preceded by inflammatory and other diseases of unusual violence, like satellites revolving around the planets. "Coming events cast their shadows before"—though it sometimes happens that there is an entire suspension of disease, like the fearful calm which anticipates the hurricane—"the torrents stillness ere it dash below." This has been often remarked with regard to epidemic cholera. Mead says that fevers of extraordinary malignity are the usual forerunners of plague, and are the natural consequences of that ill state of the atmosphere which attends all plagues. Nearly all the pestilential fevers which have desolated Europe for the last three centuries, were announced by such harbingers—as that of Venice in 1576, of London, 1625, 1665—of Nimignen, 1636—of Naples, 1656—of Marseilles, 1720—of Aleppo and the Levant from 1759 to 1763—of Holstein in 1764—of Moscow in 1771, &c. &c., and they are commonly announced by manifestations of great disturbance in the order of nature. They are for the most part preceded, accompanied or followed, by very unusual phenomena, with which medical records are prolific, and the indefatigable Webster has proved, in his work on Pestilence, derived from our earliest as well as latest authentic annals, the cotemporaneous if not essential connexion of earthquakes—irruptions of volcanoes—appearance of comets, &c. with pestilences, and our own epidemic has

been succeeded by a phenomenon of almost unexampled appearance:—I allude to the ‘shower of stars,’ on the night of the 12th November, immediately after the epidemic had ceased its ravages.

The heat of the nights in early summer was a departure from our general experience in this climate, and the long continuance of the *easterly winds, blowing fresh* all the time, (not one day, and scarcely an hour, calm) with their remarkable influence, as every one observed, in lowering the healthy tone of the body, probably from depriving it of its electricity, blasting with its sirocco breath, the vitality of the system, doubtless influenced to a great extent the intensity of the prevailing disease. M. Pariset, in his account of the yellow fever of Cadiz, in 1819, notices the same deleterious influence of the east wind, which he says “is the champsyn of the Arabs, the sirocco of Naples, the catia of Caracas;—it burns the ground and dries up vegetables, gives a remarkable expansion to the blood; irritates the nervous system, and blows on Cadiz both diseases and crimes. It uniformly exasperated the yellow fever, and if does so, it *can surely tend to produce it.* The truth is, that during the great epidemics of 1800 and 1819, it blew constantly for a period of three months.” The same occurred here in both the epidemics of 1833 (cholera and yellow fever)—during the dengue in 1828, and also precursary to, to an unprecedented extent, and during the dreadful epidemic cholera here of November, 1832; just such was the experience in the city of London with regard to the east wind simultaneous with the occurrence of cholera there in 1832, and continuing during its prevalence, and such has been the result of repeated experience, as remarked by others.* The distinguished Mr. Prout, of London, was also making experiments on the Barometer extemporaneous with the occurrence of this east wind, on the 9th February, (it had been previously blowing from the west)—there occurred a sudden and very perceptible rise in the Barometer, which continued during the prevalence of the disease. It was ascribed to the diffusion of some gaseous body through the air of the city considerably heavier than the air it displaced. My own observations with the Barometer and east wind corresponds with and confirms those of Mr. Prout. Indeed the remarkable cotemporaneous existence of these winds with mortal pestilences cannot escape the most careless observer, and to contend that the singular coexistence of such an efficient cause were without influence, would be truly unphilosophical.

The unusually early and severe fall and winter will long be remembered; indeed since the epidemic cholera reached America, and some years before, there had been a series of *unseasonable*

* Vide Chapman on Epidemic, and Edinburgh Review, No. 72, &c. &c.

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years, defying all the calculations and anticipations of the planter—destroying his hopes and blasting his fortunes, only paralleled by the character of the same dark drama of floods and failures of crops which had been enacted on a more costly scale to the Asiatic nations, preceding and coexisting with the outbreak of epidemic cholera there in 1817; such as droughts and deluges, storms and tempests, and a range of temperature out of all season and experience. These remarks have been verified by reference to my meteorological journal, which I have kept for nearly fifteen years.

To the medical historian of this year's remarkable incidents belongs the curious fact, which has been elsewhere observed, of an increased tendency in females to multiply during and after great general epidemics, after a cessation of many years, as if it were in the order of Providence to supply the place of those taken off by the ravages of pestilence. Numerous instances have fallen under the knowledge of myself and friends, too many for remarkable coincidences; one where the lady had ceased for twenty-five years, being fifty years of age; another thirteen, &c. &c. It is in vain to speculate upon an occurrence so extraordinary; our life, death and existence in every variation and gradation are dependant upon the condition of the atmosphere in which "we live, move and have our being," how important then to study its character, to understand and modify its influence, and prevent and cure the diseases incident to its qualities and vicissitudes.

The range of the thermometer has been supposed to have great influence in the production of yellow fever, and meteorological tables from 1793 to 1817 in Philadelphia, embracing numerous epidemic years, have been published, showing its connexion, if not dependance upon it, and a successful attempt seems to have been made to demonstrate its *dependance* upon an average at 3 o'clock of not less than 79° during the summer, and especially during the two whole months of June and July; and the extent and malignancy of the disease to be proportioned to the extent in which it exceeds that height; and the writer successfully refers, as proofs, to the tables of mortality occurring during the above period of twenty-five years; and he further believes, that the average temperature of the two months of June and July, at 3 P. M. (or midday, to govern the season, with reference to health, insomuch that if by the 1st of August in any year the thermometer properly placed, indicate during these periods a less degree than 79°, we may feel full confidence that during that season they will not there be afflicted with yellow fever. We are not without other authorities bearing upon the same point. Sir GILBERT BLANE

Law of compensation.

says that "this fever is restricted to a certain range of atmospheric temperature, not appearing unless the heat of the air is permanently equal to that within the tropics, that is, about 80°;" and M. AREJULA, (a Spanish physician of eminence,) says "that under 23° Reaumur, (82° Fahrenheit,) it never appears." Let us see how far this will apply to our climate for the last season—its bearing or connexion with former years, I reserve for a future opportunity.

1833.	Midday.	Average for the Month.
June - - - -	86.76	82.09
July - - - -	85.16	81.13
August - - - -	83.61	79.97
September - - - -	83.	77.57

This appears to afford a strong corroboration of the authority above cited.

The epidemic, of which it is the especial object of this paper to give an account, commenced its ravages on the first week of August, reached its acmé about the middle of November, and gradually lost its peculiar character in the first week of November. *Sept.*

As it is impossible to embrace in one general view a fever whose various types were easily recognised by the eye of experience and observation, I shall notice such grades as were obvious to me. These varieties do not indicate any specific difference of action, but constitute different grades of the same action, in individuals of different temperaments, susceptibilities, exposures; form natural classes, having a family-likeness, which are essential to be observed, as leading to a just prognosis and proper treatment.

CLASS I. THE CONGESTIVE.—The attack is sudden, the patient is at once prostrated and overwhelmed; there is dull pain in head; questions are answered with difficulty; skin bronzed; eyes red and muddy, like one drunk; pulse weak, soft, or natural; tongue with red edges or natural; extremities cold, and skin generally so, except the central portions of the body, which are preternaturally hot; pain and oppression in epigastrium; appearance of great anguish, or insensibility; the patient lying uncomplaining on one side or back as if but little ailed him; stupor; pupils enlarged; hæmorrhages. Reäction slow, and requiring much but cautious depletion to open the condition. See Case II. as a prototype of this class.

CLASS II. THE OPEN INFLAMMATORY FORM.—This was the most usual, it commenced generally with a chilliness, followed by violent pain in the lower part of the forehead, just below the eyebrows, and in the back and loins; high fever; pulse from 100 to 125; tongue white with

red edges; eyes inflamed and blood-shot, with the peculiar muddy, idiotic expression, with great sensibility of the stomach, and ardent desire for cool drinks; tenderness and tension in epigastrium, running through regular stages. See Cases I., III. &c.

CLASS III. SIMPLE FORM.—This class differs but little from the preceding, except in the general mildness of the symptoms; the pain in the head is more diffused and general; not much or severe pain in back or extremities; the tongue sometimes loaded, edges red and fleshy, and still great sensibility of the alimentary canal to medicines; the type easily recognised by the peculiar expression of the eyes, not so red and injected, but dull and muddy, occurring mostly in the latter part of the season, or in those accustomed to a southern latitude, in whom the predisposition was not strong, and acclimating mild.

The *common course* of the fever is to commence, often without any preceding indisposition or premonitory warning, with a chill which lasts sometimes half an hour, usually less, though sometimes it is absent. This chill is followed by high fever, with an intense super-orbital pain, apparently unconnected with great disordered action of the brain, as the intellectual functions are generally unimpaired, though occasionally there is delirium—a peculiar inflamed glossy appearance of the eye, easily recognised but difficult to describe, a strange compound of muddiness and lustre; pulse 120; great thirst, and desire for cold drinks, with occasional vomiting; pain and heat of stomach; tongue white on surface, with red edges; this generally continues with more or less intensity from twenty-four to forty-eight hours, when there is a remission of all the symptoms, and the patient often feels very well. There is often an anxious expression of the countenance, and jactitation. This condition continues from twelve to twenty-four hours—depending very much upon the treatment; if recur, fever returns, with vomiting or delirium; pain in the head; often suppression of urine; hæmorrhages; extreme sensibility of stomach; black vomit; death.

In internal diseases we cannot *see* the organs which suffer, but fortunately for humanity, suffering organs speak a language through the sympathies, (the symptoms,) which should never be misunderstood. For the deficiency of our senses we call upon the resources of our reasoning faculties; for it will be admitted that many things are demonstrable to reason that are not so to sense, and if we cannot *see* the diseased organ, we will interpret the language which nature speaks, and direct our treatment, (the *only* purpose in understanding *it*,) to answer her petitions for relief.

Appended to this article will be found a condensed abstract from

a detailed table, (too large for publication,) kept of all the cases occurring under our immediate care during the epidemic, and an account of the symptoms of the disease, so far as they could be procured, showing the participations in the disease of the great organic apparatuses of the system. From this table it will appear, (and the analysis is necessarily very imperfect;) 1st, that in *every case* of yellow fever the stomach is more or less inflamed—that *it* is the primary seat of disordered action, from which emanate directly or indirectly all the symptoms; that the other organs are variably and sympathetically affected; that they can be removed without removing the disease; that this relief is by means acting through the stomach; that when the symptoms of affection of the stomach are removed, the disease is cotemporaneously removed; that the direct effect of treatment, whether stimulant or antiphlogistic, shows its direct influence on the disease through the stomach—in the first case, aggravating the symptoms—in the second, relieving them: and finally, the appearances after death, showing the *causa mortis* to be gastro-duodenitis. To the all-important question, then, what organ suffers most and primarily in yellow fever, the disorganization of which produces death, the restoration of which produces health, and which is the seat of the ravages found after death, will be answered by an analysis of the symptoms, and by reference of them to their true and only origin—the *stomach*. This organ is connected to other organs by two order of sympathies: 1st, the *organic sympathies*; and 2d, *sympathies of relation*. To the first belong *affections of the heart*, as great frequency, or great slowness of the pulse. One case occurred in which the pulse was but 40 in the minute during nearly three days; the intense beef-steak redness of the tongue; anxious expression of countenance; pain on pressure in epigastrium, and on drinking warm or stimulating fluids, and the great desire for, and gratification on, drinking cool and subacid fluids, left no doubt of the correctness of attributing it to inflamed stomach—which was proved also by two local bleedings from the epigastrium and cooling drinks relieving it promptly. 2d. The general anxious expression of *countenance*. 3d. The deep sighing and occasional cough in the *respiratory* system. 4th. The colour, dryness, and moisture of the *general surface*. 5th. The occasional constipation, or diarrhœa, of the *intestines*. 6th. The occasional biliousness of the *hepatic*. Bilious vomiting, I think, I met in but one case; here there were evidences of excessive hepatic secretion throughout the disease—the *discharge furnished no relief*, and the fever was very obstinate and difficult to be subdued. On its termination the patient was quite yellow. No mercurial preparation was given throughout his disease—*bili-*

ous secretion being over-free without it; and he recovered his colour and health in a few days, (see Case VII.) 7th. The suppression of, or high colour of the *urine*. 8th. The occasional hæmorrhages, &c. from the *uterine*. 9th. And the white surface and red edges, and occasional dry appearance of the *tongue*. Dr. Rush remarked in the yellow fever of 1793 that "the tongue was in every instance moist and of a white colour, as the disease advanced it assumed a red colour, and red shining appearance; it was not quite dry in this state:" this concurs with the general experience of writers on this disease. To the *second* belong those affecting the *cerebro-spinal system*, as pains in the head, back and limbs, and want of sleep, delirium, &c. That the brain and nerves are but sympathetically affected in this disease, besides what has been above said, is further proved from the fact, long ago remarked by Dr. Rush, that "it was very uncommon to see tremors of the limbs and twitching of the tendons in it, which occur only in those where there was a predisposition to nervous diseases," which has been corroborated by subsequent observers, and the rapid recoveries from it is still further evidence of the fact, these occurring in diseases only in which the brain and nerves remain for the most part unimpaired. X

Besides these there are the *direct evidences* of the involvement of the stomach itself, known from the great thirst and desire for cold drinks, and the benefit in indulging in them, and anguish, uneasiness and pain produced by warm and stimulating fluids; the loss of appetite, the vomiting and the pain, and tension and heat in epigastrium; the condition of the tongue; the immediate effect of local detractions of blood from the epigastrium, relieving all these symptoms, and the influence of soup and other stimulants, producing red and dry tongue and delirium, instances of which will be mentioned in the cases. I may mention now, that an example occurred in Mr. B. of perfect bulimia, with all the symptoms of the fever; red, clean tongue; red, fiery, staring eyes; pain in the epigastrium; great thirst, desire for cold drinks; two or three local detractions of blood from the vicinity of the stomach soon relieved it and he recovered.

Further proof there cannot be wanting of the *specific* and *general inflammatory* nature of the disease under consideration, for besides the predisposing causes and the particular circumstances, to prove the existence of local inflammation; the high pulse and general fever; the delirium; the blood-shot eyes; the white tongue, (so often enumerated by authors as a proof of inflammation;) the hæmorrhages; the violent pains in the head, back, and limbs; its rapid termination by disorganization of important organs, and almost uniformly of the stomach

and duodenum, if not speedily arrested by depletion; the inflammatory character of the diseases that preceded it; the long continuance of the hot dry weather. SYDENHAM, RUSH, HILLARY, &c. have remarked that diseases are made more inflammatory by this description of weather, and lastly the great and immediate benefit from the use of general and local depletion and antiphlogistics.

Dissection showed in every case, inflammation of the *stomach* and *duodenum*, and sometimes extending varying distances into the gall ducts, even as far, in some cases, as the gall-bladder itself; the *liver usually unaffected*; the gall-bladder containing a due portion of *healthy bile*. In intemperate subjects there is sometimes found great engorgement of the *vena portæ*. In the congestive cases, where the system sunk with imperfect or no reâction, pulse unaffected, or small and quick, stupid drunken expression of countenance, the whole alimentary canal exhibited symptoms of the most intense devastation, even to effusion under the mucous membrane, and almost gangrenous degeneration. These appearances were extensively observed by Drs. HUNT and STONE at the Charity hospital, whose numerous dissections in such a loathsome disease, at such a season, entitle them to great credit.

These autopsical researches correspond with those which have been usually found in this disease in various parts of the globe, fully proving it to be *gastro-duodenitis* with occasional involvement of the brain, liver, &c. dependant much upon season and habits; but these latter organs are seldom *primarily* involved; their derangement can be relieved without curing the disease; they are seldom the cause of death. This however is not the case with the former; there *can be no yellow fever without gastric symptoms*; there *can be without cerebral or hepatic*; the involvement of these latter organs is often due in a great measure to the treatment. ~~X~~ Hepatic or cerebral stimulation *must leave its impression behind it*, and how far stimulants are indicated in the disease, when these organs are so often already *over-stimulated* or liable to become so, must be answered by those who are in the habit of prescribing that class of medicines.

From the foregoing observations and physiological explanation of the symptoms, we presume the following corollaries will be admitted, viz.—1st. That there are *general symptoms of inflammation*.

2d. That there are symptoms of specific or *local inflammation*.

3d. That the *primary seat* of this inflammation is in the *stomach*.

4th. That other organs are but *secondarily* affected, as the brain, liver, &c. Upon this pathology we lay the foundation of our treatment.

Let us proceed then to the exposition of the principles simplified by this view of the subject, and reduced in its indications, to—

1st. Controlling or subduing the general inflammatory disposition of the system, produced by the primary influence of the disease on the most susceptible organ, and one having the greatest range of sympathies.

2d. Subduing that inflammation itself; and—

3d. Removing its sympathizing consequences in the organic system, and system of relation.

The 1st is accomplished by general bleeding.

The 2d by local bleeding, by cooling drinks, &c.

The 3d by local detractions of blood, by cold ablutions, ice mucilages, aperient medicines, enemata, pediluvia, and fomentations, &c.

The modus operandi of the 1st.—The heart being connected with the stomach in the closest organic sympathy, it soon partakes of its irritations, and extends, by its universal action, its excitement to other organs, increases the extent of diseased action, embarrasses to that degree all the functions, and cripples the ultimate recuperative energies of the system by weakening its power, besides keeping up the irritation in its original seat: hence, then, the importance of arresting *in limine* the undue action of this important viscus, there is no mode that so rapidly and speedily affects this very often indispensable object as the lancet; and probably in no disease is this more essential than in yellow fever. This is emphatically a disease which runs through its *curative stage*, (when severe,) more rapidly than almost any other, (cholera excepted,) seldom extending beyond thirty-six hours. Neglected or improperly treated beyond this period, disorganization of some important organ, or some fatal congestion, is almost sure to occur. From these circumstances, then, the great importance of the early abstraction of blood when there exists excess of plethora, to diminish the momentum of a powerful internal stimulus. I found also relief much more surely obtained, and much more permanent when the blood was drawn whilst the patient was in a horizontal posture; when taken in an erect position, even *ad deliquum*, the pain in the head was sometimes not relieved by it, or if so, would rarely continue long. It was a rule then with me to bleed at first, (if called early,) in the horizontal position until *all pain* was relieved, and to repeat the operation at its return, provided there was much force in the pulsations of the left ventricle, and no sufficient contraëvidence of prostration. When I had thus subdued arterial or febrile reaction, and

reduced the plethora of the sanguiferous system, and there was return of pain, it was left to the controul of local bleeding. The effect of thus bleeding—when the febrile conflict had reached its height, seldom failed to calm the commotion in the system, prevent unnecessary waste of the vital energy, by moderating the violence of reäction, quiet the irritated organs, and prevent the extension of irritation to remote parts of the system: and I carry it so far until all the urgent symptoms, proceeding from excess of reäction, have disappeared, or been subdued. We thereby prevent the consequences which we know, from reasoning and experience, will result from inflammatory congestion produced from unrestrained excess of action in the blood-vessels, at a time when the system is necessarily debilitated from the long continuance of solar heat, occurring as this disease usually does in the last of the summer months.

In bleeding, my object was not so much the quantity of blood removed, as the *impression* made upon the system by the evacuation, and one efficient bleeding, as soon as the febrile excitement is developed, will do more to diminish the excitement of the heart and arteries, and in subduing the violence, and shortening the duration of the disease, than a dozen “moderate” bleedings. These tend to diminish strength without controlling the disease, or removing the inflammatory or congestive tendency of the blood-vessels to particular parts—the heart and arteries have time to accommodate themselves to its loss, and thus resist the subduing influence of the measure: less blood then is actually expended, and the impression kept up in the system. Hence then the difference between Dr. Rush’s bleeding twelve to fifteen times, taking each time eight to fifteen ounces, and that recommended here. The object being *effect*, and that kept up where requisite by the repetition of the bleeding to the full intent of accomplishing the desired end, and hence the *quantity* was an object of minor importance; it sometimes required seventy ounces at first, and in twelve to eighteen hours ten to twenty more. But then the *end was obtained*—the disease was, as it were, strangled in its birth; the fever in but few instances continuing longer than twenty-four hours after these bleedings, and they produced but temporary debility. Mr. J. (Case III.) was out and well four days after loosing between eighty and ninety ounces of blood; while in other cases, not so depleted, the fever run on three or four days; and in the first case there was rarely a return; while with the second there ensued the insidious remission on fourth or fifth day, with its fatal return soon after—black vomit, &c. In no disease probably is it more necessary to bleed early, if at all, while the system having reäctive

power will respond to its impression, and it can have derivative influence. If it be protracted, it cannot cure inflammation with deficient *vita*, or remove congestion in a prostrated organism. Hence bleeding was mostly an equivocal remedy after the second day. As the season advanced less detraction of blood was required. The importance of using immediate means to arrest this disease, has been beautifully inculcated by Dr. Rush, by comparing it to Time, which has a lock upon its *forehead*, but none behind. For quantity and repetition, see tables at pages 35 and 36, and the cases in detail.

The second indication was accomplished by local bleeding, cooling drinks, &c. As soon as the pulse was reduced by the lancet, and their still existed pain in the head, back and limbs, great thirst, tenderness of epigastrium, vomiting—from four to eight cups, or from ten to thirty leeches were applied behind the ears and back of the neck, or to the epigastrium, and with the *uniform* effect of alleviating, and almost always of subduing the symptoms. Thus, each visit of the physician was truly gratifying, and little less so to him than to his patient—for he had the satisfaction on each occasion of evincing his power to afford his patient entire relief, and those who have suffered the agonies of yellow fever, know how great a boon that is. It was sometimes necessary from being called late to a patient, from his having taken medicines, and extended the gastro-enteric inflammation, from vomiting supervening, or becoming obstinate, continuance of fever, from recurrence of pain in epigastrium, head, &c. again to have recourse to local bleeding. Here leeches are much better than cups, and fully answer the end in view: from twenty to thirty should be applied to the epigastrium, usually ten to fifteen are sufficient, for their being now a great hæmorrhagic tendency, from the vital forces being much impaired, and from the broken down state of the blood, the bites will continue to exude blood, sometimes for forty-eight hours, relieving the gastric pains and uneasiness, vomiting and fever, without much increasing the debility; and this they do by diverting blood from the mucous membranes, the focus of sanguineous accumulations.

It is evident then that general bleeding was often not sufficient, for though it extends its influence to every part of the system by lessening the mass of blood, the relief is often but of short duration, *because the local irritation not being subdued, continues to draw fresh supplies of blood into the tissues, and they soon recover their preponderance over the other organs.* Hence this local irritation must be subdued in a *more direct manner*, and the strength of the patient saved: but on the contrary, if local bleeding, (in a case where there is

plethora of the blood-vessels,) is not preceded by general blood-letting, fresh supplies would be obtained to be poured upon the affected tissues, derived from the redundant fluid in the system. It is obvious then that they are different remedies—one is to the part what the other is to the raging torrent of the circulation. In cases of severity there is no substitute, it cannot be dispensed with. All disease is local first; its greatest; its *lethal* impression is local; its general impression is sympathetic; is transient. It consists in *active local over-excitement*; the obvious remedy consists in local depletion from the part itself, or from a neighbouring organ or part, having the closest sympathy or connexion with it from which it is safe.

The well-known influence of capillary bleeding over the undue action of the heart; its antagonizing influence over the centre of the circulation; its removing a local irritation from which originated the vascular excitement; the direct and important sympathizing influence of the stomach with the skin opposite; all corroborated by the direct effect of these means, are each and every one, proofs not only of the correctness of the treatment, but of the pathology. These remarks are happily corroborated by very high authority, of no modern date; PARENS and others mention cases of recovery from the plague by hæmorrhages from the nose, &c. continuing one or two days. RUSH mentions the same of spontaneous hæmorrhages from the nose and other parts, curing yellow fever. RIVERIUS also cured a pestilential fever at Montpellier by a gradual abstraction of blood, and Dr. HODGES cured the plague in London in a similar manner; “perhaps,” says Dr. Rush, “*the uniform good effects* which was observed to follow a spontaneous hæmorrhage from an orifice in the arm, arose wholly from the *gradual* manner in which the stimulus of the blood was in this way abstracted from the body.”

And again, he continues, he “often found the pulse so weak, quick and frequent, and with other signs of prostration, that he could not bleed; nature often relieved herself from this condition on the fourth or fifth day, by the discharge of several pounds of blood from the gums, and with the *happiest effects*.”

The same authority and accurate observer remarks, “that plentiful sweats and discharges of purulent matter from external sores cures plague, and that their efficacy depends upon the *gradual manner* in which it is done, and that these discharges may be easily and effectually imitated by *small and repeated bleedings*,” and so highly does he think of these gradual abstractions of “stimulus,” as he terms the blood and secreted fluids, that he thinks “*in some future time the only question to be asked will be from what part of the body these*

evacuations should be procured, the order that should be pursued in obtaining them, and the quantity of each of the matters to be discharged, which should be withdrawn at a time! Had that distinguished and eminent man lived to witness the effect of the application of local bleeding in febrile diseases in our day, based upon the more perfect physiological and pathological knowledge of the system, he would have had additional reasons for his professional enthusiasm and gratitude to heaven.

Dr. WILLIAMS relates the case of the recovery of a gentleman from the yellow fever following small hæmorrhages which continued three days, from wounds in his shoulders made with the scarifier. The gradual abstraction of blood by leeches had a similar effect in our fever, after the second day, subduing and keeping down excitement, irritable stomach and local determinations of blood. Iced gum water and lemonade were freely allowed to fulfil the same indication, and they contributed largely to the success of my practice, and the gratification of the patient. It was, however, found necessary in some cases of great gastric irritability, to limit the drinks to the smallest possible quantity, and sometimes almost to suspend them altogether, and only to rinse the mouth with cold drinks, and to chew ice. The latter indulgence was very valuable, and I sometimes permitted patients to swallow small portions of ice.

For the third, besides the preceding, injections every four or six hours were ordered, to keep the bowels in a soluble condition, and it was in but very few instances that *this did not supersede every other*. To show how little purgative medicine was required, the bowels were kept open by these means, and the *stools were natural in most cases throughout the disease*. Mucilaginous fomentations to the abdomen; when skin hot a free use of cold ablutions; ice in a towel or bladder to the head, and every four or six hours a mustard bath to feet, to equalize the excitement, and to correct or prevent undue determination to the head. The warm bath was occasionally of great benefit where excitement was irregular, and there existed ataxic reaction, to equalize excitement, and then bleeding even in the bath, occasionally answered most valuable purposes. Great wakefulness, a very troublesome symptom, was controlled without difficulty by free depletion from the head. Sometimes there occurred a slight delirium, sufficient to prevent the individual being conscious of what was passing, and recollecting the past, which was relieved by similar means. It was remarked that there was less danger when the pain in the head was, though excruciating, diffused over the entire head, than when confined immediately over the eyebrows.

It was not found necessary in a single instance to resort to tonics during convalescence, (the appetite being already stronger than the digestion,) which was usually very rapid and just in proportion to the preceding unembarrassed state of the constitution. This was remarkably evinced in several who had previously suffered under gastric derangement, (dyspepsia, &c.) and in the cases referred to in the table where return of appetite was protracted; it occurred in subjects who had suffered from protracted chronic ailments, or in latter part of the season. When this was not the case, the return of appetite and strength was inconceivably rapid. (A gentleman informed me on using some soup which I had prescribed to him, that it passed like electricity through his system, imparting immediate strength—his constitution was unimpaired—see Case III.) Such as these may be said to have yielded temporarily to the blast, they could not resist, and as soon as it passed they stood erect with all their original strength and stamina. Animal food was to be resorted to at first with care, the original gastric irritation being easily reëxcited; the stomach, (*the citadel,*) and bowels, not being impaired by the treatment, and unencumbered by drugging; appetite, and with it, strength, was soon restored. This is otherwise when treated upon a different plan, and the convalescence requires a different treatment; if a patient's bowels can withstand calomel and the drastic purgatives, he can withstand soup, porter, tonics, &c. while physiologically treated, he will only bear the mildest excitement. In the first case, the excitability of the stomach and bowels is worn down by the repeated drugging, if he survives; in the second, only reduced to the grade of recuperative restoration. Hence the first *requires stimulants* to restore the impaired energies of an exhausted constitution; the other the mildest nourishment, as a pabulum for constitutional support; for the treatment consisting only in means to *reduce excess of morbid action*; when that is accomplished, nature only requires support in her constitutional reëction. No experienced, candid, enlightened man will doubt, but that efficient energetic treatment influencing disease, may even alter its stages; it is the test of power and efficiency; it controuls and breaks up morbid action. If then it influences materially the primary impression of diseased action, it breaks up its links, it alters its sequences, it arrests its associations of sympathetic action, if it *directly subdues disease and does not substitute another for it*. Such in fact was the effect of this direct depletory mode, that in but few cases, (when called early and where there was a sound constitution,) *was there a recurrence of fever*; the fever when subdued, which was usually in from twenty-four to thirty-six hours did not return. Hence it is

believed to be one of the best evidences of its adaptation to the disease, the true philosophy of the profession. It is at no expense of the constitution. It removes that which *directly* tends to its destruction.

Among the attendants on the late occurrence of the disease were various hæmorrhages—as from the ear, uterus, or anus. My friend, Dr. HUNT, mentioned to me instances occurring at the Charity Hospital, to which he was surgeon, in which blood exuded from the scrotum, and in various cases hæmorrhage occurred from the gums, in those however *only*, (so far as my observation extended,) where the individuals had taken mercury. A gentleman from the country who had but a few weeks recovered from a severe attack of bilious fever, in which he had been severely salivated, on coming to the city was seized with yellow fever, and suffered excruciating torture in his back, limbs, and stomach, but particularly the former; about the third day salivation came on spontaneously, (for I gave him no mercury,) and he was highly salivated, *without its mitigating any of the other symptoms*. This was followed by profuse and very exhausting hæmorrhage from his gums. He recovered, after a free use of local depletion, but his convalescence was protracted, and it was some time before his appetite returned. A fetid breath was considered a very bad symptom: I saw but one case in which it existed that recovered, and in that case convalescence was very protracted. Great restlessness and jactitation of body was a very bad symptom. I saw an instance of it terminating in speedy death where it was the only alarming symptom. There occurred but two cases of hiccup in my practice. There was for the first few days great liability to faint in the erect posture. A long walk, or rather run, and then plunging into the cold bath, excited the disease in one of my patients: it proved fatal. Intemperance excited it in several. Fear produced it in some. Any thing that tended to destroy the equilibrium of the system, acted as an exciting cause. In one case there was a great and universal soreness to the touch throughout the body. As the disease retired, it assumed in some instances the intermittent form—became more protracted and milder, and almost every instance mentioned in the table of a protraction beyond the eighth or ninth day, were in those occurring in the latter part of the season; or when the constitution had been previously impaired.

Persons of all ages, colours and conditions, who had not been acclimated, were subject to the disease. It was most severe with the robust of middle age and of intemperate habits; it was much milder with the coloured, and in those coming from similar parallels of latitude; most of those from Charleston, South Carolina, escaping, though not universal-

ly. The Creoles of the state unacclimated to the city were not exempt. I know of no instance where it was taken a second time. In intertropical countries the disease is rarely taken twice, unless the acclimation may have been lost by a continued residence from the climate for some time in more northern latitudes. In this respect it differs from countries whose winters are sufficiently cold to destroy acclimation, or the accustomed impression of a warm temperature.

I know of no preventive but *rigid temperance*, a free use of the cold bath, and flesh brush; this has succeeded in persons who were unaccustomed to the city. We are not without distinguished authorities for the efficacy of temperance in exempting from the influence of pestilence, both in ancient and modern times; among others, it may be mentioned that Socrates in Athens, and Justinian in Constantinople, were preserved by means of their abstemious modes of living from the plagues which occasionally ravaged those cities. Dr. HODGES, HOWARD the philanthropist, the experienced Dr. JACKSON, Dr. J. JOHNSON, Dr. CLEGHORN, and Dr. RUSH, confirm, by their personal experience, the utility of low diet as a preventive to plague and yellow fever. The details upon this subject are very interesting, but I have no room for them; they are fully confirmed by my own experience, of now near fifteen years, in this disease.

Such then is the result of our experience with the physiological mode of treatment of yellow fever; it is not confined to one year's experience, it is the result of five, and now for near fifteen years in this climate, I have treated, and seen it treated, by nearly every mode. The grounds of preference will be stated in the sequel. I have thus stated, in as succinct a manner as the importance of the subject would admit, the indications in yellow fever, deduced from its pathology, and the treatment which results. The highly satisfactory result may be seen by referring to the tables at the conclusion of this paper, where it is established that out of my seventy-five cases of yellow fever, only six terminated fatally under this mode of treatment, or eight per cent.

I proceed now to enter more into detail, and show the application of the principles and practice to the cases themselves. To show that these views are derived from and sustained by experience, as well as a priori reasoning, and that they have triumphantly stood the test of the late epidemic. Of course, in a paper like the present I can only give the details of a few cases.

CASE I. Dr. M.K. aged twenty-eight, of a sanguine-nervous temperament, with great cerebral development, and highly intellectual, was taken on the 19th of August with chilliness, feverishness, and violent pain in the head, epigastrium, back and limbs, and even some-

what delirious; having had several days of similar premonition, which had been disregarded in his anxiety to attend to his professional duties. The pulse was found soft, and a little upwards of 100; eyes red and injected; great gastric irritability, and intense thirst; red tongue with strawberry points. A free cupping from the epigastrium gave great relief; ice in a bladder was ordered to his head; a hot mustard foot-bath every two hours; cool emollients and sub-acid drinks; purgative injection. About *midnight* pain in head returned. Cups to temples gave partial relief; fomentations to abdomen.

20th. Slept but little; symptoms returned. Cups to neck and epigastrium, which promptly relieved all the symptoms; emollient enemata every four hours. Attempted to give a cathartic, the stomach rejected it. *Evening*. Recurrence of symptoms; slightly delirious; slept occasionally during the day; pulse 88; tongue same, though paler. Cups to neck, to entire relief.

21st. Slept during the early part of the night very well, latter part restless; some pain in head; pulse 88; eyes still red; abdomen soft; cupped neck very freely, to the entire relief of the head. From some symptoms of intestinal irritation, abdominal distention, uneasiness, &c. which occurred to day, (and the cause of which will be hereafter explained, though we were then unaware of them,) it was deemed advisable to exhibit a cathartic, (cathartic pills of rhubarb—scammony and aloes each two grains,) which was partly rejected. The sensibility of the stomach was increased by the cathartic, requiring renewed and unremitted attention to the iced mucilaginous drinks, fomentations, &c. to remove it. *Evening*. Pulse better; heat of skin and pulse reduced, which this morning had been higher than usual.

22d. Slept pretty well; skin cool and moist; pulse natural; free from pain; feels very well; some appetite; bowels natural; tongue cleaning; gave barley water, arrow-root, &c.

23d. Slept well; feels in fine spirits; stools natural and formed; urine good and sufficient; appetite. *About 10 o'clock* complained of irritation in the rectum, a frequent disposition to go to stool, with tenesmus, little or nothing except mucus passing. This at first did not at all alarm us; it was deemed an irritation under the controul of anodyne fomentations and local bleeding, and for five or six hours the pulse did not at all partake of it, nor were there any other evidences of intestinal irritation; when however all these means were found not only to have been tried in vain, but that the irritation was increasing, it became necessary to examine into its probable cause, and it was found that he was labouring under rectitis from the improper and *unauthorized* use of a large glyster pipe by

his French nurse, who had been in the *habit of using it unknown to us*, sometimes *every half hour and oftener*. Irritation now extended to the bladder and contiguous parts, producing indiscrutable torture.

7 P. M. Symptoms became highly aggravated and alarming; pulse sinking; cold extremities. Stimulants; flying sinapisms, &c. were all tried in vain.

Remarks.—Thus this patient was snatched from safety, after he had evidently weathered his disease. The case was extremely interesting, and among the earliest in which the physiological treatment had been tried. The prompt relief in this case from the urgent symptoms by the local bleeding, the gratification of the strongest instincts by cool and sub-acid drinks, cool air, &c. the avoidance of offensive articles believed to be uncalled for by his condition, and inadmissible from gastric irritability, produced from the patient himself, (a highly talented member of the profession, but inexperienced in this practice,) the warmest expressions of delight and surprise, and was most favourably received by all who witnessed it. It was seen to be aptly accommodated to the objects to be accomplished, and it was obvious it fully and fairly effected them, without suffering, or jeopardy, or loss of time. As much interest had been excited by the case, and he was fairly considered to have weathered the storm, many professional friends, as well as myself, were desirous of witnessing the autopsy, to see how far it would account for such an unexpected event. Accordingly I proceeded twelve hours after death, in the presence of Drs. MEUX, PICTON, HUNT, HARLEY, CROCKETT and KELLY, to the examination.

Autopsy.—Body but little emaciated.

Stomach. Some few patches of redness near the upper orifice; *mucous membrane sound.*—*Duodenum and small intestines.* Pretty natural.—*Liver and gall-bladder.* Entirely healthy; latter half-full of healthy, but rather concentrated bile.—*Rectum and large intestines.* From margin of the anus to *twelve or fourteen inches up*, the rectum exhibited marks of the most intense inflammation, and some incipient ulceration, particularly around the anus. The large intestines and bladder and kidneys unaffected. The heart was examined by Dr. Hunt; a slight speck of inflammation, if not ulceration, was observed on its lining membrane.

It was not convenient to examine the head.

From the appearances, it was the unanimous opinion of the gentlemen present that there were no sufficient disease to account for the unfortunate termination in this case, but that exhibited by the rectum.

CASE II.—*September 23d.* B. H. aged twenty-six; six months here, of a sanguine temperament, was suddenly strack with a violent pain in head, so as to make her stupid, she was carried to bed totally un-

conscious of her situation. I saw her in four hours, and found it almost impossible to get any answers to my questions, and had great difficulty in rousing her. She was stupid and almost comatose; eyes muddy, watery, and injected; skin bronzed; tongue dry and red; pulse 120, soft, and weak; respiration embarrassed; deep sighing; eructation; extremities cold. Drew nearly eight ounces by cups from epigastrium and back of ears, which having greatly liberated the circulation, she was then bled cautiously to twenty ounces, which roused her, and she could give an intelligible account of herself. Ordered strong hot mustard bath to extremities, and injections of salt and soap-suds, and spirit of turpentine every four hours; warm cataplasm to stomach; gum Arabic water as drink.

24th. Slept well last night; bowels well operated on; stupor lessened; feet cold; thirst; tongue red and dry; bled to ten ounces, and applied cups to epigastrium and neck, and repeat the bath and injections, &c. as yesterday.

25th. Better; skin warm and moist; tongue moist; thirst not so great; intellect still dull, and too much disposed to sleep; bowels well opened; feet cool; repeat the cups behind the ears, and continue the balance of the prescription.

26th. Much better in every respect; skin and bowels good; tongue moist; ordered mild nourishment.

27th. Doing well; no return of fever. Discharged.

Remarks.—Local bleeding is eminently useful in liberating the circulation, when disposed from super-irritation to be concentrated upon a part; this was just such a case, and so are all our worst and most intense grades of summer and autumnal fever, having a local irritation as a focus of sanguineous accumulations, internal medicines have very early the power of removing it, their tendency is to increase it. Many years experience has convinced me that no remedy I have ever seen and tried, has an equal derivative and liberating power to cupping. Reasoning as well as experience are both in favour of it. In this instance I believe there would have been speedy dissolution without it. In such a case, there is not blood enough in the general circulation to permit you to detract from it. This fluid is in the capillary tissue. In proportion then as you remove the local irritation, you diffuse the circulating mass, but as the vis medicatrix in producing reaction, would tend, in the present condition of the part, to disorganization, unless its disposition to concentrating action was controlled, bleeding was requisite in the cautious manner used, to prevent it. This was accomplished, the reactive power was kept in check, fever was controlled, and the case did well. The condition of the tongue showed that the gastro-intestinal surface would not

have borne revulsion upon them, by the administration of internal medicine. Hence, the course pursued was the only admissible one, it will rarely fail, when attempted with a cautious boldness.

CASE III.—*August 26th.* C. M. J., a delicate, sanguineous, nervous temperament, aged twenty-six, eight months here, was taken suddenly on the 26th at 2 P. M. soon after an usual dinner, without any premonition, with chilliness, violent pain in head, back, and limbs, and feeling of malaise at epigastrium. Saw him at 8 P. M. and found him as above; with hot and dry skin; pulse compressible, but sharp, and above 100; tongue white, red edges; eyes muddy. Bled while in a horizontal posture to relief, which, to my astonishment, required about two quarts and a half—then the relief was perfect; ordered mucilaginous fomentations to abdomen; warm mustard bath every three hours; towels wrung out of cold water to head, and surface often washed with the same; mucilaginous sub-acid drink; injection of soap-suds and salt, and to have the vein reöpened if pains returned.

27th, 6 A. M. Had passed part of the night well; skin hot and dry; pain in head returned; pulse 100; some tension of epigastrium and uneasiness of back; tongue white, with red edges. Bled to relief, which required $\frac{2}{3}$ xx.; ice in bladder to head; directions continued.

10 A. M. Some uneasiness of head and epigastrium. Cupped epigastrium with entire relief; directions continued. *Night.* Pulse comfortable; no uneasiness; bowels well moved; stools natural; skin became gradually cool; pulse reduced to 88.

28th, 6 A. M. Passed a pretty good night; skin rather warm; abdomen soft, though little doughy; some dull pain in head; feet, (which had been rather cold heretofore, by increasing the strength of the bath,) had become very warm. Cupped freely from neck and behind ears, with entire relief, and gave a wine-glass of sweet oil. *Midday.* Oil operated well; natural stools; pulse 92. *Night.* Much better; skin cool; no fever or thirst; eyes clear.

29th. Much better; slept well, but sweated profusely; pulse 84; tongue moist and clean, and pale eyes; some appetite; abdomen soft. Continue directions, but lengthening the interval of application. Ordered some very weak chicken water. *Afternoon.* Feels very well; soup revived him very much; feels much stronger; walked several times across the room; pulse 76, soft and full; expression very good, and every symptom of convalescence.

30th. Slept well last night; sweated too freely; weakened by it. Ordered flesh brush to entire surface, (*bis in die.*) Tongue clean;

pulse and abdomen natural. Convalescence established; walking about the house. Soup, mush, &c.

31st. Slept well; no night sweat; appetite good; feels well; walked out to business.

Remarks.—This was an ordinary case, where the disease went through its usual progress in a sound and unembarrassed constitution, and is a fair specimen of the treatment. Mr. J. is delicate; temperate; totally unaccustomed to the climate, and had every symptom, from its suddenness and violence, of a severe attack. It promptly yielded to the treatment—every indication having been immediately fulfilled, and though a very large detraction of blood was required to controul the extent of morbid action, yet the patient did not feel incapacitated by it to attend to his professional duties on the fifth day, though the weather was unfavourable. It is hardly too much to say, that under similar circumstances yellow fever would not be more alarming, or more fatal, than intermittent fever. This gentleman had no childish fears about the result to mar the treatment, and had every confidence in the course, which he knew to be new, and met it like a man.

CASE IV.—*August 29th.* O. W. aged twenty-one, of a sanguine, bilious temperament, resident here eighteen months, taken with a chill followed by high fever, and pain in head, back, and limbs, &c.; found him in this condition; three hours after covered with blankets, in profuse perspiration; pulse 125, full, bounding, though very compressible; skin hot; eyes red; tongue white, with red, fiery edges. Bled to about sixty ounces before perfect relief; removed blankets, and gave cool emollient drink; injections; baths of mustard to feet, as above, every three hours, and ice to head. In four hours pain in head had returned; reöpened vein, and took sixteen ounces, previously applying six cups to epigastrium, which seemed to develope and give additional vigour to the pulse; it was now reduced, and all the symptoms relieved. *Midnight.* Was called on account of pain in head returning; cups to side and neck relieved it entirely.

30th. Found him better, but pulse 106; skin hot, and occasionally dry; had slept pretty well after midnight; tongue getting paler, but seemed loaded posteriorly. Six cups to epigastrium, which gave great relief, and opened the skin and cooled it; ordered a table-spoonful of castor oil. *Afternoon.* Better; oil operated well, though it irritated him, keeping up the pulse to 98, with warmth of skin.

31st. Slept well; skin getting cool; pulse 88; bowels and urine good; tongue white and somewhat loaded, edges pale. Continue treatment. *Midday.* Same, but cooler; pulse 74; feels comfortable.

Night. Same; feels well. Continue.

September 1st.—Slept very well; feels some desire for food; pulse

74; skin rather too warm and dryish; head cool; tongue somewhat loaded, and pale on edges; urine and stools natural. Ordered some gruel to drink as before. *Midday*. Pulse 84; skin warmer; feet rather cool. Ordered mustard bath to feet, and cool emollient enemata. *Night*. Skin too hot; pulse same, though more tense, and some tension of epigastrium, and occasional pain there. Applied five cups to epigastrium.

2d. Slept pretty well, and felt much relief after cupping; pulse 84; skin cool and moist; abdomen soft; stools natural; urine plenty, though high-coloured; no pain; tongue still loaded, hot; some appetite. Treatment continued, but intervals lengthened, and gave arrow-root. *Midday*. Same, though skin too warm and dry, and bowels not sufficiently opened by the enemata. Gave magnesia. *Night*. Medicine operated; stools natural; patient fainted on pot, to which he *would* get up; skin cooler; pulse softer. Continue baths and emollient drinks.

3d. Slept badly; skin too warm and dry; pulse 80; appetite strong; tongue paler, and somewhat loaded, though mouth too dry; some little tension in epigastrium; eyes good colour. Continue emollients; arrow-root gruel, &c. *Midday*. Has slept several times; some hæmorrhage from gums.

4th. Symptoms same; had slept well; skin rather warm and dry, except when he used foot bath; bowels natural; stools formed; felt weak, and nurse gave *sangaree*, and he was a little flighty afterwards. *Midday*. Some colicky sensations and feeling of heartburn. Gave ginger tea; carb. pot., and ordered some very weak *sangaree*, which relieved it. *Night*. Easy; had talked a little wildly in his naps several times.

5th. Slept part of the night, latter part badly; tongue dark from blood from gums, and some part of night talked wildly; feet rather cool. Blisters to legs, and continue. *Midday*. More wild; had taken too much port-wine *sangaree*, and some more bleeding from gums and ear, which has been very free; every other symptom, pulse, bowels, urine, and skin good. Ordered gargle of alum; coffee; arrow-root; weak chicken soup. *Evening*. Appeared much better. About *midnight* became more flighty; hæmorrhage from gums had somewhat ceased. Applied morphia to blistered surfaces, which procured some hours repose during afternoon. At night more delirious; urine abundant; no black vomit; commenced sinking, and died during the night.

Remarks.—The immediate cause of the disease in this case may be ascribed to the great imprudence of the use of a cold bath after excessive fatigue during the heat of the day, and after profuse sweating, and on an unacclimated individual. I thought at the time that

the sangaree on the 4th had done some injury—acting upon an excitable individual, and increased the predisposition to gastro-cerebral irritation, to which his temperament rendered him so liable. The bleeding from the gums very much prostrated him, and doubtless arose from a large dose of calomel, (twenty to thirty grains,) which he had taken before I was called. He was much alarmed throughout the disease, which was much against him, though he had every encouragement from devoted friends and a kind nurse. He had been subject to a purulent discharge from his ear from infancy; the hæmorrhage from that surface was not surprising. He was subject also to pain in the head, probably arising from the same cause, which was difficult to keep under during the disease, and rendered the use of stimulants excessively injurious. The termination at last was unlooked for, even with these additional embarrassments, for the constitution was a good one, and the symptoms of disease seemed to have been removed almost as soon as they originated. My after experience, however, convinced me, (and it was a practical point of great importance, giving rise to much reflexion and observation,) that *leeches* would have answered much better than *cupping* on the 1st, from their gradual and continued abstraction of blood; for in this stage of the disease I found afterwards that blood would continue to ooze from leech-bites in proportion to their size, quantity, and condition of the patient, so as to be graduated almost at pleasure; the discharge then has a better effect in counteracting the tendency of morbid action to *concentration* when the organism is near prostrated, forces more sunk, and less able to resist the encroachments of disease. All this was fully verified by subsequent experience.

CASE V.—*September 4th.* J. O. J. aged twenty-nine, unacclimated; resident here two years; of a bilio-melancholic temperament; looked and felt very bad, with red, watery eyes, for a week or ten days. On night of 3d had set up with the corpse of a deceased friend, and drank more than usual; felt bad; feverish; restless; pain in forehead, back, and soreness of limbs: called to him on 4th, at ^{3^o} A. M. and in addition, found his eyes very red, blood-shot and ^{at} watery; tongue red and dryish; pulse 124. Bled to fifty ounces before the pains in head and back gave way; pulse reduced in force, not in frequency; ordered six cups to epigastrium, and emollient cataplasm afterwards; hot mustard bath to feet every four hours, and injections of oil, molasses, salt; ice to head. *Midday.* No pain; more comfortable; tongue still dryish. Continue. *Night.* Tongue dry; pulse same; skin moist; no pain; bowels well opened; stools and urine natural. Six cups to epigastrium; continue directions.

5th. Passed a good night; skin and tongue, (though a little reddish,) moist, and feels much more comfortable; pulse 100; stools natural. Continue. *Midday.* Slept some; feels better; skin good; eyes better; tongue moist; pulse 80; tendency to cold feet; strength of mustard foot bath increased, cold to head. Continue. *Night.* Same; stools and urine natural. Continue.

6th. Slept only partially; feels uncomfortable; soreness of muscles; restlessness; some tension in epigastrium; pulse 84. Ordered sixteen leeches to epigastrium; bath continued, &c. *Midday.* Leeches drew well, and they continued to bleed; feels much better; tongue moist; slept some; pulse 80. Gave him gum Arabic lemonade, which he found very refreshing.

7th. Slept well; pulse 72; skin soft and moist; tongue pale and moist; epigastrium soft; bowels open; eyes getting clear. Continue mild drinks; enemias; ordered gruel and arrow-root. *Midday.* Same. Appetite.

8th. Doing well; slept well; appetite.

9th. Well. Discharged.

Remarks.—Here was a case of great violence, and portending a rapid termination, scarcely at all yielding in its aspect, (except in the violence of the pains,) for about twenty hours, though there had been two copious bleedings, and two cuppings, &c. until the *continued depletion* from the leech-bites confirmed and rendered final what the others had only begun; moistened the parched tongue; cleared the muddy, bloodshot eye; and gave repose to the agitated system.

CASE VI.—*September 7th.* M.H. aged twenty-four; a resident fifteen months; of a full, plethoric habit, sanguineous temperament; was taken with severe head-ache, chilliness, and high fever at 2 P. M. on 7th; sometime after four I found him, in addition, with high pulse, of 125; eyes very red and injected, and watery; pains severe in head, back and limbs; in a profuse perspiration, covered with blankets, and skin very hot; pulse not very strong, or of much force, such a pulse as to be expected from such a state of the skin; bled to twenty ounces to relief of pains; ordered iced lemonade, cataplasms, enemias, pediluviae, as in other cases; in two hours the pains returned; reopened the vein and drew sixteen ounces to relief. Treatment continued.

8th. Passed a pretty good night; fever continues; pulse 116; some pain in head and back; six cups to epigastrium, and two to neck. Continue treatment. *Midday.* The cups relieved the pains mostly; some pain and heat about the head; two cups to side of the neck. *Night.* Pains removed; fever continues; pulse 100; skin soft and moist; heat of head and hands; ordered ice in bladder constantly to head; and wash skin when hot and dry with ice water.

9th. Better, and slept well; pulse 92; too hot, though moist; bowels open and natural. Continue treatment. *Midday*. Same; eyes still rather injected. *Night*. Easy; feels better; pulse 84.

10th. Better; slept well; tongue almost clean; bowels open; stools natural, as have been throughout; eyes still injected; no pain; skin good. *Evening*. Doing well; pulse 76; slept.

11th. Doing well; bowels, skin, natural; some appetite; gave gruel and rice water. *Midday*. Vomited twice some *dark, flaky matter*, like *coffee-grounds*; gave ice to chew. *Night*. Doing well.

12th. Doing well; slept well; no nausea; appetite; ordered some very weak chicken water; frictions with the flesh brush to surface twice a day.

14th. Eat too much, (a whole squab,) produced feverishness; ordered abstinence; cooling drinks; bath.

15th. Well; discharged.

Remarks.—This was also a case of great violence, with strong determination to the head, eyes very much injected, and a disposition to coma, so much so, that though he answered questions intelligibly, yet for the first five days he was scarcely conscious of any thing that passed. It resisted for several days the most determined depletion, but finally yielded to perseverance. The tongue gradually became pale and clean, the bowels were kept sufficiently open, several evacuations per day by injections, without cathartic medicines, and under this mode of treatment it can be easily effected in this way, nine times in ten, and hence the stomach is saved the irritation they never fail to produce, and great advantage is thus gained by it. I had also to contend with a stupid, inattentive nurse, and hot room. This case also proves, as does many others, that a case in which *black vomit* occurred is curable in patients, the energies and capacities of whose stomachs have not been impaired by *over-drugging*, and the recuperative energies of nature not crippled or destroyed.

CASE VII.—*September 10th*. P. D. aged about thirty-two, bilious temperament, resident eighteen months, taken with chilliness and violent pains in head, back, and limbs; red and glassy eyes, with high fever; pulse full, 120, though not tense, but compressible; tongue white, with red edges; bled to thirty ounces to relief; vomited during the bleeding some bile; ordered cold applications to the head, arms, and surface generally; mustard bath to feet; injections of oil and salt; bath for four hours. *Midday*. Pains returned; fever continues; pulse full, strong, and developed; bled to relief, which now required twenty ounces. Continue treatment. *Night*. Something easier; stools natural.

11th. Passed a restless night; heat of the surface continues; pulse much weaker; eyes and tongue same; six cups to epigastrium; ice to head; and continue treatment. *Midday.* Easier; skin moist, but little hot; pulse reduced. *Night.* Skin still hot; persevere in cold applications.

12th. Passed a restless night; some pain in the head; stools natural; pulse 104; tongue paler; cups to neck and behind the ears. *Midday.* Easier; skin moist; less heat. *Night.* Easier; skin moist, though hands and head too hot; and vomited twice some bile with much mucus; though stools quite natural by injections; iced barley water; and continue treatment.

13th. Rested better, though but part of night; head too hot, and some pain over the eyes; eyes too red; pulse 90; three cups behind the ears; the cold applications; injections and bath persevered in. *Midday.* Much better; profuse perspiration; skin reduced to natural temperature; bowels good; some sleep. *Night.* Easy; continue.

14th. Slept pretty well; feels better, though stomach weak; gave barley water and gruel iced, in small quantities, and order two teaspoons of oil; as tongue pale, but loaded at back and middle. *Midday.* Oil operated several times; feels pretty easy. *Night.* Easy; pulse 84. Continue treatment.

15th. Slept well; tongue still pale, though foul; feels better; no appetite; pulse 76; continue. *Midday.* Better; walked across the floor; some desire for light nourishment; gave arrow-root, and continue directions at longer intervals.

16th. Slept well; feels much better; tongue clean; appetite; pulse 76; ordered chicken water. *Midday.* Walking about; better.

17th. Doing well; eyes and skin tinged of a yellow hue, and some symptoms of jaundice; stools light-coloured. Allowed light food.

18th. Doing well; had slept well. *Night.* Convalescent; discharged.

Remarks.—This is the only case which exhibited *bilious* symptoms, several times vomiting bile and evincing much gastric as well as hepatic irritability throughout, and hence the obstinacy of the febrile symptoms, demanding much local depletion to remove them; the evacuations from the bowels were natural throughout, no mercury was exhibited, there was not presumed to be any indication for it, having no faith in the *regulating power* of mercury, and believing it a specific *stimulant* to the liver. I saw no indication for its use, when there was already an *overflow of its secretion*. In bilious fevers I had often seen jaundice and torpid livers follow the profuse or long-continued use of mercury. It is to be hoped that correct observa-

tion, enlightened by proper experience, will be substituted for a defective theory and worse practice.

CASE VIII.—September 14th. G. L. B. aged twenty, of a full bilious temperament, nineteen months resident. Taken in night with chill, and very violent pains in head, and calves of legs; high fever followed, with thirst; red, injected eyes; pulse 120, full, and very compressible and soft; tongue white, with red edges. Saw him at 11 o'clock, and bled him while sitting until fainting, though pain in the head not relieved; laid him down, and after reaction fully returned, continued the bleeding until entire relief, which required thirty ounces, and ordered mucilaginous drinks and fomentations to abdomen, injections and mustard pediluvium every four hours, &c. 5 P. M. Was removed a few squares in a carriage, and pains soon returned; pulse stronger; reopened vein and bled to relief, which now required twenty ounces, and prescribed as before, and cold to the head.

15th. Slept pretty well; pulse 116; skin cool; and some pain in head; stools good; tongue white; six cups to epigastrium, which relieved head, and he felt better. *Midday.* Easier; skin cool; pulse 84. *Night.* In sitting up to take foot bath, against directions, (for in this disease they are so liable to faint in the erect position, and it is so hazardous in a prostrated organism,) he nearly fainted; head afterwards affected; delirium and fever followed; ordered ice to head, six cups to epigastrium, and two behind the ears, which gave great relief; skin became cool and moist.

16th. Slept but little; talked wildly, occasionally; pulse 100; skin too hot; tongue white; bowels natural; but little thirst; answers intelligibly; three cups behind the ears; ice to head. *Midday.* Feels much easier; skin cool and moist; bowels good; slept some; seems sensible; continued. *Night.* Head too hot; feels very well, though the nurse says he talks to himself; three cups behind the ears; no pediluvium, the last night it was too hot and strong, and acted as a stimulant instead of a revulsive.

17th. Slept pretty well; eyes better; tongue paler on edges, though still white on surface; pulse 88; skin moist and heat reduced. *Midday.* Doing well; pulse 84; skin and tongue same.

18th. Slept well; feels much better; expression good; tongue more flabby; the milky-whitish coat nearly removed, and a pale ness supplied its place. *Evening.* Same; light nourishment allowed.

19th. Slept well; pulse 76; skin, tongue, and bowels good; ordered light soup; egg during day. *Evening.* Some heat of the skin; pulse 88; head-ache; eat too much. Ordered orange-flower syrup and water

iced in tea-spoonful, at a time, and often; cold to the head and surface; injections; foot bath, and abstinence.

20th. Slept well; feels well; pulse and skin very good; tongue pale and shrunk on edges; some whitish fur. Ordered arrow-root; gruel; barley water; frictions to surface; had a natural stool. Discharged.

Remarks.—This was a case of great severity; the patient was conscious of but little that passed the first four or five days. A kind of stupor steeped his senses; there existed great tendency to affection of the head, only to be controlled by a rigid and extensive use of topical depletion and refrigerants; we could not produce revulsion upon the stomach and bowels—for the cerebral irritation was but sympathetic of a primary irritation *there*, and could not safely induce it on the extremities to any extent, for there was too much heat; hence then the local, depletory treatment was the safest and most direct—in fact, the *only* admissible treatment.

CASE IX.—*September 24th.* T. P. aged about thirty-three, of a full, plethoric, corpulent habit, and sanguineous temperament, resident several years, (except summers,) was taken with a chill on 23d, followed by fever, &c.; saw him on 24th, at 6 o'clock, A. M., and found him with fever; hot, dry skin; pulse 110; head-ache, and occasionally delirious; tongue white, with red edges, and had spent a very bad night. Bled him to relief, which required twenty ounces, and ordered ice lemonade; injections; baths, &c. (as usual.)

25th. Slept but partially, though feels better; pulse 98; tongue same; some head-ache; head and skin generally hot, though soft; bowels open. Continue directions. *Midday.* Same; rather more feverish, and increase of pain in head. Ordered cups to epigastrium and neck; continue other directions.

26th. Passed a bad night; slept but little. I now understood that the cups yesterday drew but little blood; felt hot and feverish; skin dry. Ordered fifteen leeches to epigastrium, and two cups behind ears. *Evening.* The leeches and cups drew a large quantity of blood, and gave great relief; he soon fell into a gentle sleep and free perspiration, and now feels much better; eyes look clearer, and expression good; had two natural stools; pulse 88. 10 P. M. Was called to him; had at 9 o'clock suddenly and without any premonitory symptom, except occasional belching of wind during the day, and huskiness about the throat, ejected a quantity of *black vomit* from the stomach, and *thrown to a distance without straining or effort*, (the usual peculiar circumstances attending it;) had been restless, and had just taken

the foot bath: it alarmed him very much. Ordered him to chew and swallow small pieces of ice, and to take iced gum water in small quantities, and to be perfectly still, &c.

27th. Was awake to 3 or 4 o'clock, A. M. from mental uneasiness—then slept pretty well a few hours; had a black liquid stool, about a pint; pulse 92; much agitation of mind; frequent sighing; skin soft; head easy; leech-bites still continue to bleed freely. Ordered continuance of advice of last night. *Midday*. Slept very easily; feels better, and more composed. Dr. ROGERS, (one of our oldest and most experienced practitioners,) visited him to day. My views were concurred in. Continue treatment. *Evening*. Feels easy; slept; skin soft and moist; pulse 88; head easy; tongue paler, injection of flaxseed tea. Continue former directions, and syrup of gum Arabic for drink.

28th. Slept well; pulse 84; skin and head easy, soft and moist; feels some appetite: the injection operated twice—the first consisted of only a little dark-coloured water—the second was a good *mushy, bilious stool*; feels much better; eyes and skin somewhat tinged; vomited this morning some rancid lemonade, which had been imprudently given him, and over-quantity of drinks taken during the night. Ordered arrow-root, &c. *Midday*. Much the same; doing very well. Dr. Rogers left the case, not deeming further attendance requisite.

29th. Passed a pretty good night, and feels much better; skin good; pulse 80; considerable appetite; desired claret and water, refused him; asked for soup; ordered some *very weak chicken water* made of a very young fowl, of which he was to take a very small portion; stools good; skin yellowish. *Evening*. Found skin too warm; pulse 92; tongue reddish along the edges; talks a little wildly; *soup* made too rich, and *took three times as much as allowed*. Ordered cooling drinks and ice to head; injections, and mustard bath to feet, &c.

30th. Passed a bad night; restless and delirious; tongue red; pulse 102, small and rather soft; extremities apt to become cold, and spleen enlarged. Ordered a blister to back, to spleen, and calves of legs; injection of oil every four hours; iced lemonade; ice to head; sinapisms to feet and hands occasionally. *Midday*. Much the same; slept a little; answers questions intelligibly, though talks wildly to himself; skin moist; pulse 108; eyes and skin very yellow, evidently and deeply jaundiced. *Night*. Same; passed a good stool: dozes occasionally.

October 1st.—Slept but little last night; pulse 108, and soft; edges of tongue very red, white on surface; abdomen rather distended.

Give two tea-spoonfuls of castor oil, with orders to repeat every three hours till passage. Continue treatment.

2d. Condition same; very deeply jaundiced; bowels free and somewhat bilious; continues delirious, and tendency to coma.

3d. Unaltered. Treatment continued. Died at night.

Remarks.—In this case the first twelve hours was lost, which was very important. On the 25th the local detractions of blood by the cups was very imperfect, therefore but little benefit resulted from them: notwithstanding these serious impediments, and the great alarm he felt throughout the case, here is an instance of a free liver, having *black vomit* and *black inky stools* on the *fourth day*—*surviving*: and it must be evident, from precedent and subsequent circumstances, that the *condition to form it* must have been made *previous* to the application of the leeches, and the *alteration must be ascribed to them*, it having been long proved by dissections and observations of our distinguished countryman, Dr. *PHYSICK*, in 1793, and corroborated by multiplied experience since, that black vomit depends upon a *secretory irritation* of the mucous membrane of the stomach, to be prevented by subduction of its excitement, as has been proved to me at least three times during the present epidemic; but this case not only *survived it*, but the entire condition was changed—tone of the stomach and bowels, and *their secretions*, in a great measure, restored; *bilious* and *natural stools* supervening, and in the opinion of one of the veterans of the profession, evidently getting over it. This continued several days, with constant proofs of amendment, and the *relapse* on the 29th, (for no one could call it any thing else,) was unquestionably produced by the *soup*, overtaking the enfeebled digestive power of an important organ—producing primarily gastro-duodenitis, and as a consequence, jaundice, and then cerebritis, and at a period when it was no longer safe to attempt to reduce local action by local depletion, with diminished power and prostrated forces.

These are all the cases my limits will permit me to set forth in detail. A synopsis of the whole is to be found in the following tables, which will fully sustain the claim to successful treatment.

Analysis of the principal Symptoms observed in Yellow Fever during the Epidemic at New Orleans in 1833, with the Treatment, Results, &c.

SYMPTOMS.

Epigastrium.		Vomiting.	Hiccough.	Thirst and desire for cold drinks.	Period of Return of Appetite.					
Painful	Tense.				2d day.	3d day.	4th day.	5th day.	6th day.	8th day.
17	Nearly all.	Nearly all.*	4	Nearly all.	1	7	14	14	7	2

* Four had black vomit, of whom two recovered.

SYMPTOMS.

Tongue.	Eyes.	Expression.							Feces.		Intestines.	Skin.		Urine.	Uterine.				
Dry and red.	Yellowish.	Dull and stupid.	Frightful.	Despairing.	Indifferent.	Anxious.	Natural.	Natural throughout.	Bilious.	Disturbed by Medicine.	Constipation.	Diarrhoea.	Natural colour.	Yellowish.	Suppressed.	High-coloured.	Pregnant.	Nursing.	Appearance of menses during the attack.
6	10	1	3	3	3	55	9	38	4	11	2	4	59	6	2*	Almost all.	2†	5†	2†

* In one of these the suppression was relieved on the third day, and the patient recovered.
† All these recovered.

SYMPTOMS.

Sleep.			Pains.					Delirious.
Bad.	Partial.	Good.	Head.	Back.	Limbs.	Great muscular soreness.		
35	6	10	66	60	60	1	10	

GENERAL HISTORY.

Attack.		Period of Cessation of Fever.			Period of Discharge.												
Sudden, without premonition.	With chill.	1st day.	2d day.	3d day.	2d day.	3d day.	4th day.	5th day.	6th day.	7th day.	8th day.	9th day.	10th day.	11th day.	15th day.	16th day.	Longer periods.
3	26	5	38	10	4	10	14	14	10	4	4	2	2	1	1	1	1

TREATMENT.

BLOOD-LETTING.										OPENING REMEDIES.		
General.			Local.							Laxatives: generally oil.	Enemata.	
Once.	Twice.	Thrice.	Once.	Twice.	Thrice.	4 times.	5 times.	6 times.	7 times.			9 times.
33	12	1	19	13	3	8	1	1	3	1	23	All.

The other remedies employed, were baths, hot and cold; cataplasms, ice, lemonade, and emollient drinks.

RESULTS.

Recovered, 69. Died, 6; of these, 1 died from imprudent and unauthorized use of the glyster-pipe by the nurse, after every appearance of recovery, see Case I. 1 died from hæmorrhage from the gums, in consequence of having taken a large dose of calomel before I was called, see Case IV. 1 died from want of proper attendance—no nurse; room over a nine-pin alley, the noise from which prevented his sleeping at a critical time. 1 from relapse, brought on by strong soup taken on the eighth day, see Case IX.

It may not be without instruction, and will tend to a proper understanding of this subject, to make a cursory analysis of other modes of treating this disease, with a view to an investigation of the principles applied—to compare these with its pathology, and to apply the test, whether the one is a philosophical deduction from the other. I am sensible that I approach a delicate subject—one that has been discussed with a virulence and personality which should never have admittance within the pale of scientific inquiry. Philosophic truth has no necessary connexion with human passions, and he who cannot investigate it without being excited to angry feelings, trespasses on the rights of free discussion, betrays the weakness of his cause, and greatly retards his own progress, by the obstructions he is throwing in the paths of others, and should never be permitted to enter the temple dedicated to science.

The other modes of treating yellow fever may be embraced under three heads. 1st. The mercurial. 2d. The purgative and “moderate bleeding.” 3d. The West Indian or French mode; that by ptisans and diaphoretics, &c.

To Dr. RUSH, in the year 1793, may be “fairly” attributed the introduction, of the mercurial treatment of yellow fever, in America. He informs us in his account of the yellow fever of that year, that it was based upon a dissection of a negro by Dr. MITCHELL of Virginia, in 1741, in which the liver happened to be found diseased, “rotten, the gall-bladder full of concentrated bile, with obstructed pori biliarii and ductus choledocus.” At this enlightened day, no one would draw a conclusion similar to that of the distinguished and venerable author. We are wholly left unapprized of the previous habits and condition of the negro alluded to. We know that they are but little subject to this disease, and that it is very mild with them generally, and that they are usually very intemperate, when they have the opportunity; and these circumstances might well account for the whole condition referred to. But 2dly. Here is admitted to have been a surcharge of bile, and a disorganized liver, from excess of action. Is it philosophical practice to prescribe medicines *whose specific action is supposed to tend directly to increase the very condition of thing, which was the presumed cause of death!* But obstructed ducts and all the other *circumstances* arose, doubtless, from the duodenitis, which is always present in yellow fever, and seldom absent in this condition of the gall ducts and liver in any disease; but here the “*duodenum was red and inflamed; and also the stomach, both inside and out.*” With all my reverence for the man, I cannot, for the life of me, recognise the propriety of his conclusions from his premises. The re-

sult of examinations after death in this very fever of 1793 would have taught a most valuable lesson, and would have greatly diminished the value of *Dr. Mitchell's dissections*. Had gastro-intestinal pathology been properly understood at that day—had the influence of a diseased surface on sympathising organs been then known—had the primary and sympathetic effect of medicinal agents on mucous surfaces, healthy or diseased, (been known as they now are, to vary,) been then appreciated, his conclusions must have been very different; for from the extensive dissections of *Dr. PHYSICK* and *CATHRALL*, “the liver was found universally sound, excepting in one case, in which a few distended veins were seen;” “but the stomach and duodenum were the parts most diseased, the inflammation appearing exactly similar to that induced in the stomach by acrid poisons;” according precisely with all subsequent experience. We are now permitted from more accurate and extensive pathological knowledge, derived during a period of unexampled success, (the last thirty years,) in medical research, during which the uncertainty of ancient medicine has been dissipated by the spirit of modern indefatigable industry, and the darkness of speculative physic been illuminated by recent philosophical investigations, to tear up by the roots the ancient landmarks of the profession, so far as they were based upon metaphysical subtleties, hypothetical assumptions and supposititious data, and laying its foundation upon the enduring pillars of recent discoveries in anatomy, a more improved acquaintance with intimate structure and actions, a vast additional knowledge of the laws of life, and an extensive information of diseased structure, and hence diseased actions, inviting conclusions from premises with the inferential reasoning and logical deductions of the exact sciences; these then are advantages possessed by the science of to-day, and which have been only developed by the indefatigable researches of our contemporaries, a knowledge of which puts the student of the present period far, very far, in advance of the big wigs and grave faces of the ancient *professors* of our art.

During the same year yellow fever existed to an unusual extent in the West Indies and other parts of the world, so much so, that the long resident inhabitants, and even the natives did not escape with impunity, showing a great alteration in the nature and change of the noxious causes; on which *M. HUMBOLDT* remarks, “that a very slight variation is sufficient to destroy immunity in those whose organs have become exquisitely sensible of variation from immutable uniformity of meteorological succession!” He illustrates his proposition by reference to galvanic experiments, which prove that chemi-

cal agents excite not only by their quality, but by their order of succession also. At this period, too, public apprehension was naturally commensurate with the mortality which was very much increased by the influx of a large number of unacclimated individuals, (armies and their attendants and followers,) from the warlike attitude of the political world; it occurring soon after the commencement of the French revolution, and also promoted by their long comparative exemption; there having been no epidemic yellow fever since 1762, and the general type of diseases previous to 1793, being generally of an ataxic character, so far as we can obtain information. A new specific character was consequently soon given to the epidemic; many believing that it was imported from Africa, from Grenada, &c. &c.; and a specific remedy was soon proposed, and mercury was announced as capable of arresting its progress, and it was held as incontrovertible evidence of its efficacy, that in most of those who were salivated, recovery followed. Now, although the mortality continued to be excessive, the failures were not permitted to effect the reputation of the practice, (the usual course on the introduction of most new remedies,) and as credulity keeps pace with apprehension, there was less difficulty in its procuring faith. We have then a two-fold and simultaneous origin of the mercurial treatment in yellow fever, and we have a double error in speculating upon its presumed effect. The one based upon a hypothetical assumption of "a rotten liver and distended gall-bladder" as the cause of this disease, and of "*the calomel loosening bile from its close connexion with the gall-bladder and duodenum, during the first day of the disease*"!* The second from the observation of the fact of the salivary glands being at first unintentionally affected, in some cases of recovery, by the calomel combined with the purgative, the inference was hastily drawn, that the declension of the fever was the effect of the ptyalism; whereas, the very converse of the conclusion is the truth; for though synchronous, yet as experience proves, that all attempts to excite the specific action of mercury in a system labouring under high degree of fever are perfectly unavailing, *until the fever has been moderated by other means*, we are justified in concluding, that the declension of the fever and the supervention of salivation stand in the relation of cause and effect; that the latter arises from the former, and this is a general and uniform result of the use of mercury in other diseases; the difficulty in procuring the specific effect of mercury is just in proportion to the intensity, violence, and extent of an existing disease. The

* Rush.

incompatibility of a mercurial and febrile disease coëxisting is generally admitted. The major subdues the minor, if the constitution can withstand it. Witness the mercurial influence occurring in the intermission of fever, and subsiding immediately on its return or exacerbation. Witness the horrible effects of mercury, used in syphilitic affections before the extent of inflammatory action and of fever is previously subdued, in the extensive sloughing and mortification that ensues. Witness the same effect in any inflammatory fever, if trusted mainly to it, without other, more prompt and more powerful means of reducing fever is previously used. Mercury being a stimulant, is not applicable to a case of violent or inflammatory fever, and the insensibility of the system under active fever, to the specific stimulus of mercury has been universally observed, and its applicability to the treatment of fever will be in an inverse ratio to its high grade or intensity. It is generally known, that the outbreak of all epidemics is more violent than at any other period of their progress; and it is equally well known, that during the early part of last season here, calomel was not competent to manage it. If then in the higher grades of fever it is inadmissible and inefficient, and in the subordinate fevers it is superfluous, for we have safer—more expeditious—valuable and agreeable means of reducing fever without it, and without the hazard of those ulterior disastrous consequences which so often follow its use, of which we have so many living memorials, and even with the most cautious, it is difficult then to imagine a case of the legitimate disease, when the adaption of the practice is *indispensable*, or even admissible. Confidence in the mercurial treatment was greatly impaired here during the yellow fever of 1820. In the most aggravated form, ptyalism was seldom induced, and when it actually occurred, the patient did not always recover. A sore mouth could not save the lamented LARNED and numerous others;* and “those said to have been saved by it, had a long and tedious convalescence.” Dr. JACKSON, of extensive experience in West Indian and American fevers for more than half a century, says, (in his valuable work on febrile diseases,) “that it is only in mild cases that mercury affects the mouth, and that, on the contrary, when the disease is continued and ardent, or slow and creeping, with diminished sensibility of the skin, and impaired energy of the vascular system, enormous quantities of calomel either produce no visible effect, or the gums become spongy and livid, but no salivation ensues, the event then is unfortunate.” And further,

* Vide account of New Orleans yellow fever of 1820.

“that when salivation actually takes place in continued fevers, it seldom shows itself till the violence of the symptoms has evidently abated; hence the appearance of the salivation is only an *indication* of the *departure* of the *disease*; no proof existing that the operation of the mercury is the cause of the departure.” Dr. RUSH says, in the yellow fever of 1793, “mercury seldom salivated till *the fever intermitted or declined*, and that in the City Hospital, where it was chiefly depended upon, and venesection sparingly used, more than half died;” and in his account of yellow fever of 1798, “that the course by mercury alone, succeeded *in mild cases only*.” Dr. GRANT states, “that *all who* were treated by mercury, died, and they became more the victims of the mercury than they were to the fever.” BANCROFT says, “its utility in yellow fever, except as a purgative, is greatly to be doubted; that it has been extensively tried in the army without success, and that its good effects have been greatly exaggerated.” Even Dr. CHISHOLM himself, states, “that there are circumstances in which the utmost difficulty is experienced in obtaining this effect, (salivation,) from calomel, and others in which the candid practitioner must acknowledge its inefficacy;” and he mentions, “that two thousand grains! have been given without effect under the influence of disease.” Sir JAMES FELLOWS says, “he never saw advantage from the large quantities of calomel recommended in fever.” Dr. DICKSON says, “that mercurial influence is incompatible with a great degree of heat and vascular action, and that the most profuse exhibition of this medicine is unable to induce its specific effect during a high state of excitement, as well as in that form of fever where the sensibility of the system is greatly impaired.” Dr. M^cARTHUR says, “that mercury exhibited in the largest doses, and in every mode, perseveringly and assiduously employed, and however protracted the fever, in no instance affected the mouth in the worst fevers, which terminated in death;” and even in the mild and remediable fevers of Great Britain, ARMSTRONG himself, formerly one of its greatest advocates, says, “that while the system continues under the influence of fever, ptialism is not easily induced.” But why refer to *authority*; could that recommend it, in defiance of reason, of argument, of truth, founded upon the pathological condition and the resulting therapeutical indications, all of which oppose it.

The theory of the action of mercury in yellow fever is the substitution of the mercurial action for the existing diseased action. Let us subject this to a moment's examination, and see how far it will bear the torch-light of scrutinizing investigation; whether it is safe to trust a disease so violent in its inception, and so rapid in its termination,

to a mode of treatment, slow in its progress, uncertain in its effects, contingent ultimately upon every variation of treatment and constitutional peculiarity, and even when its specific effect ensues, not giving assurance of safety; in fact, having for its basis a hypothetical assumption, and its superstructure *chance* and *coincidence*.

It is a well established fact that the liability to the establishment of mercurial influence is in the inverse ratio to the amount and intensity of action existing in the system at the time. The greater obscurity the less, and as no two diseases of equal power can exist in the system at the same time—*de duobus doloribus simul abortis vehementia obsurat alteram*—there is a prerequisite wanting to the establishment of mercurial action of indispensable importance; 1st, the subduction of existing action to a grade where it would be in the power of the mercurial action to overcome it; and 2d, the establishment of the mercurial action itself. These are *both* of *indispensable importance*. Let us see what *time* would be required for this to be consummated; 1st, then, to reduce the system to the grade of a safe remedial power would require from twenty-four to forty-eight hours; and 2d, the establishment of a mercurial action can rarely be effected, *under the most favourable auspices*, under forty-eight hours! here then we perceive that *at least* three days are required, and the difficulties in the establishment of a mercurial influence is *just in proportion to the violence of the case*, (the intensity and extent of existing action,) the *very condition of things where a remedial agent is most required*—and we have seen before that the curative stage of yellow fever, when severe, is in the first twenty-four to thirty-six hours usually.

But even after all the risk is run of abandoning all treatment to this, suppose we have accomplished the great end of establishing mercurial action, does that constitute safety? The numerous well-authenticated cases, known to every one here, who are not both blind and deaf to the painful passing results of every year, and the many cases that have occurred elsewhere, fully answers that question. It has been conclusively shown by Cartwright and others,* and is now

* It affords me the greatest pleasure to be enabled to corroborate my views on this important and interesting subject, by the annexed extract of a letter under date of June 10th, 1834, from my talented and experienced friend, Dr. R. C. Randolph, now of Alabama, whose authority here, for near ten years, (it may be said without at all derogating from the skill and deserved standing of his cotemporaries,) was preëminent. To those who had a personal knowledge of Dr. R. it may be useless to speak of him—to those who had not, it may be briefly said, that he was one of the most distinguished of southern practi-

well known, that salivation does not *prevent* the disease; Dr. Cartwright remarked, (in describing the yellow fever of 1823, at Natchez,) that "mercury administered in the first stage sometimes produced ptyalism, yet such ptyalism had little or no effect in arresting its progress." He continues "I have seen as many patients die, and whose mouths became sore early, by one or two doses of calomel, as I ever saw recover!" There is no more common remark in the treatment of fever by mercury than to find during the remission and intermission of fever, ptyalism to ensue, but to subside on the return of fever, or the invigorated force of the disease evincing its feeble power when contending against a powerful foe; such is evidently its effect in yellow fever; ptyalism often ensuing on the third and fourth day, during its insidious calm, but not at all preventing its fatal return on the ensuing. Such has been often noticed by experienced observers, such has been the result of my own repeated experience, and of many of my friends. I trust the explanation I have ventured will satisfy all candid men *why it should be so*. It is truly then leaning on a broken staff; it is trusting ourselves to the current without pilot, oars or sail. Hence then it is believed to be demonstrated that there is no reliance upon the sanative powers of mercury in a severe case of yellow fever. I have not used in the argument, nor need I, the devastations it has produced, the health undermined, the constitutions ruined; I need not refer to the experience of the dentists in the work

tioners, alike remarked for talents, indefatigable research, devotion to his profession, and a peculiar quality of attaching all to him whom he attended, by the strongest ligaments of affection. He has now retired to the shades of private life, full of honours and gratitude, beyond the reach of praise or censure.—
Penes me.

"My experience taught me, that when exhibited, (mercury,) to induce general mercurial action, it was wholly useless, if not pernicious. Ptyalism seldom ensued, and only in the mildest cases of the disease, which would doubtless have terminated in health by the antiphlogistic regimen. On the other hand, there were repeated instances wherein the diseased and mercurial actions, alternated with each other, and the result, it need hardly be said, was almost always destructive to the excitability or principle of life. Calomel combined with other drastics, as formerly exhibited in New Orleans, was from my own observations, a most destructive system: indeed, for more than six years of my residence in Louisiana, I had arrived at the conclusion, that such means tended to disorganize the vessels of the *primæ viæ*, already excited to extreme action by the determination, or force of the disease."

"I perceive that M. Begin and M. Broussais are favourite authors with you—there are few medical treatises which have yielded to me more satisfaction—and if they do not exhibit the truth, at least they detail something very like it."

carved out for them in rotten teeth and toothless jaws, nor to the observation of that portion of our experienced faculty who are not at a loss to account for the numerous cases of chronic gastro-enteritis and hepatic irritations, chronic pains and sensibility to atmospheric variations, which have so multiplied on their hands. These all form a lengthy and painful catalogue of ills, we are more or less necessarily subjected to under its administration, in a climate having the reputation of being extremely prejudicial to human life, but which is "more sinned against than sinning."

Let us endeavour to illustrate this further by another view of the subject. It is an axiom in the administration of medicines—"medicina non agit in cadaver"—for medicines to act or rather to produce action, (which is the proper expression, for medicines only act chemically, which cannot take place during life,) there must be a living organism—susceptibility and a power of association. These are all essential to life: on the administration of any drug, an action or impression is produced on the receiving organ, usually the stomach. This impression is propagated to associating organs, dependent upon the specific quality of the article being in accordance with the organic sensibility of the part. If the stomach should be in a crippled condition, (from over excitement,) owing to the violence of the attack, and it is usually in that proportion, its associating power with other organs is then impaired or lost; they do not respond to its impressions; they will not come to its relief; for it is freely granted, that when it is easy to act on the secretions, this mode of depletion relieves the embarrassment and irritation of this important viscus. The practical question then recurs, if the above is true, (and I venture to say it cannot be denied,) how are we to know when the stomach is in this state, in which medicines act only as irritants to the viscus itself, aggravating its morbid condition, not affecting the actions or secretions of other organs, and losing valuable time, that can never be reclaimed? I answer—the redness of the tongue, and particularly its edges, and white surface; the tension and pain in epigastrium; the violence of the fever; the thirst and desire for cold drinks; the red suffused eye, &c. These being removed by general and local bleeding, mucilaginous cool sub-acid drinks, &c. the obstacle to the administration of medicines is surmounted; but they are then *seldom wanting*. Injections empty the bowels at once. There are no evidences of intestinal accumulation—none of acrid secretions—less here than in any fever, there is no time to collect them. Let us apply these remarks to the exhibition of mercury. If the premises are

correct, mercury does not act in violent cases, that is, can only act on an irritated stomach, *already in an over-excited condition*. It cannot salivate—the associating organs, liver, salivary glands, &c. wont respond. The condition then, of the impediment, must be removed, and in doing that *you cure the disease*. In mild cases, when alone it acts, we have safer and less exceptionable means. Where then is the indication for this modern Hercules, unless it has the power assumed for it by its various advocates? Now a sedative—now a stimulant power—now a regenerator—the grand *regulating agent* of the system—the Catholicon that cures all diseases—the power of the fabled wand of Ulysses. It alters secretions when vitiated; it restores them when checked; it retards them when too great; it induces a new action when required, and produces discharges of a healthy character from the very same vessels that were just pouring out fluids of a morbid nature!!! Such then are the effects of the blindness of prejudice when enlisted to sustain the beguiling and cherished errors of early education! It has been often remarked, and as often lamented, that we derive so little benefit from the errors and failures of our predecessors, that most of the valuable lessons taught us in the school of experience have been derived from the frightful details of that long and gloomy roll of victims whom baffled science, essayed in vain to save, and whom a bygone humanity most feelingly deplored. Surely our wisdom is severely earned when paid for in mortal agonies and human lives! It is time then that we were *wise*. The lives intrusted to our care are in imminent jeopardy: must *they* too become the price of our future attainments! Is it not a part of that wisdom, so dearly earned, to desist from experiments which have been *so often tried in vain!* which have proved so prodigal and wasteful of human life; and when the tears of unavailing regret over suffering and buried thousands have attested their decided and fatal inefficacy. And of what medical experiment of modern times, have we had more painful manifestations than in the exhibition of mercury? Epidemic succeeds to epidemic—experience accumulates upon experience, in demonstrating alike its inutility and its pernicious effects. Still routine takes precedence of ratiocination, and the “beaten track,” though it “lead but to the grave,” is preferred to a new road, though the latter be more direct and more safe, and preserves the constitution unracked by the rugged unevenness and “precipitous declivities” of the old one. Changes it is true are not always improvements, but new systems in science are often condemned for no other reason than that they *are new*; as if the same rebuke would not have reached and applied to, (in its day,) every system of practice

which has ever prevailed. It is no distant day since mercurial ministrations themselves first had their date, and it would have proved a blessing inappreciable to those who have since then borne the burthen of life, if prophecy could have foretold of its baleful agencies, what after events have so lamentably realized. But hoary age has not yet so sanctified it, with its delusive consecrations, as to render it inaccessible to the assaults of reason and truth; and he who shall bravely dare to unmask its deformities, and fully crayon out in faithful delineation, all the dangers which arise from its improper and excessive use, will have merited as rich a wreath of laurels as ever graced the brows of the bravest of the knights of Malta.

2d. Let us see if the purgative and "moderate" bleeding is more worthy of our confidence. From the pathology of the disease, which has been heretofore pointed out, there has been proved to exist a highly inflamed state of the gastro-intestinal mucous membrane, and that in proportion to the violence of the disease. There is no suppression of biliary secretion. It is evident then, that the purgatives are contra-indicated. Upon what grounds are they given? To act upon the liver? But the liver is not diseased. Let alone, it is rare for its secretions to be at all disturbed in yellow fever. Can you remove *irritated*, or *congested*, or *injected* mucous membrane of the stomach and bowels by *purging*? So long as this morbid condition of the digestive surface remains, so long, by the very constitution and laws of the human frame, will the heart be hurried and disturbed in its functions. I will grant, that any extraordinary depletion, (secretion,) from the liver, or any other organ, tends to reduce, and thence to equalize excitement in the abdomen. But there is no mode of accomplishing this *directly*. You have to reach it through the medium of associating organs, and here the very organs through which we are to reach it, are crippled in their functions, deranged in their sympathies, and in too excited a condition to transmit an action, whose only tendency then, is to increase the very condition of things it was given to remove; for cathartics are excitants—they are given, if for any thing, to produce biliary and intestinal secretion; and when those organs are not stimulated beyond the *secreting point*, (which is a physiological condition,) they often effect it. But when they are so stimulated, they only tend to increase the excitement, produce a pathological condition, and further prevent secretion. Dr. Rush himself, remarked, (yellow fever of '93,) that "when active purgatives had been given, and *they acted at all*, the stools were copious, foetid, and of a black, dark colour; when they were spontaneous, or excited by weak purges, they had a more natu-

ral appearance." And we have from the same authority, (in his account of the yellow fever of '97,) that "morbid bilious matter resisted the most powerful cathartics until the fifth and seventh day of the fever, at which time it rather yielded to the disorganizations of the liver, than to the medicine."

Having shown that yellow fever consists in an inflammation of the stomach and intestines, (which is an inevitable deduction from the symptoms,) the physiological and pathological language of organs, the effect of treatment and appearances of death, modified probably by certain occult atmospheric influences on a predisposed individual,) and cathartic medicines not being indicated in the treatment, I might pass them over without further notice; but as their importance has been magnified, and they have the confidence of some of my esteemed brethren, it may not be inappropriate to state, a little further, the grounds of my objections to them.

Many fanciful hypotheses have been built upon the supposed "diseased secretions" in this disease. My impression is, that their existence has been assumed without proof; for 1st, if the bowels are let alone, and the disease treated upon physiological principles, they are not found, as has been demonstrated in the preceding part of this essay. But, 2d, for secretions to be diseased, or altered, there *must be an antecedent state of irritation in the organ that produced them, from the well established law, that there must be an harmonious relation between an organ and its product; that an organ cannot produce a functional result of its vitality, that shall affect itself in an aggressive manner; if its secretion has been denaturalized, it has followed as a result, the aberrations of the organ that produced it, and is consequently natural to its then state, there naturally existing an inseparable relation between the secretion and secretor; the latter cannot produce a substance that is injurious to itself.* Neither the venom of the viper, nor the saliva of the dog, irritate the organs that produced them. The same applies to the liver, intestines, and stomach. Their secretions are natural to them in a physiological state. When this state becomes changed, and the organ much excited, the secretory point is transcended, and all secretions arrested. But if only the surface to which they are applied is diseased, (and it is the mucous surface which is usually diseased,) secretions which before were bland and innocent, being now applied to *irritated parts*, whose relation to them is altered, *become a source of irritation themselves.* It is demonstrable then, that the indication will be, to lessen the irritable and excitable state of the *part*, and not increase the *secretion*, (often the mere result of that sufferance, sympathetically by purga-

+ much irritated - may

tives,) that is already offensive. Some organ, if the medicine succeeds in operating at all, (often it does not, driving the organ beyond the secreting point,) throws forth its secretions, and from the difficulty in controlling in an excited state of the bowels a regular evacuation, they become imperfect, and meeting the various ingesta in the bowels, chemical laws supply the place of the vital, and hence they sometimes become denaturalized in appearance. Now, the evacuation of bile, upon which so much stress has been laid, is but a *symptom*, and cannot, of itself, guide us to the measures for relief, unless we can ascertain the condition of the part, of which the evacuated matter is only *one* of the evidences; but with blinded empiricism, a cathartic is administered, if there is *too much bile*; the same is given if there is too little; it is given if it is *altered*; you blow hot and cold with the same breath; the *propter hoc* is inferred from the *post hoc*; and as *all-important bile* is to cure all, *similia similibus curanter*, you blunder on until death, or a crisis ensues. Now, the latter, (a favourable one,) you can never be sure of or controul. It is the result of the prior excitement of an organ or apparatus, which is just as liable to end in disorganization and death as cure. I say *liable* in the argument; every candid practitioner knows it does so in fact; dependent altogether upon the constitution of the individual, and the violence he has suffered from your medicaments. Is it not better then, not to subject our patients to these uncertainties, with even the common chances against him? Is it not better, safer, more agreeable, to remove the excitement of an organ or apparatus, upon which all this depends? Is it not better to use depletory means *directly*, by leeching or otherwise; to arrest by abstinence the increase of this state; to quench as well as to gratify thirst, and subdue excitement by emollient and iced drinks? Does not nature point them all out as among the first and most imperative of our instincts? Is there any mode more agreeable to the sick? Is there any that more speedily, nay, more *rationally* subdues the disease and saves the constitution?

The best, the most experienced, and most numerous authorities do not attribute yellow fever to biliary derangement, or that any disease of this viscus is its cause, and all experience in examinations after death, fully confirms these views; and that the liver is only an occasional participant in this sometimes overwhelming disease. And even here it must be allowed to be greatly influenced by the treatment the individual has been subjected to, his habits; and it is particularly fatal with the intemperate, whose livers are so often diseased from these indulgences. Drs. Physick, Cathrall, Miller, and a host of

*causes of producing a stimulus to the liver, and the
 feel & blood have a producing debility from it, which is
 gathered witness - in some cases a stim. to the
 implement in order to produce its secretion, or a very
 - refer to our sense on - the exhibition - liver*

others, have conclusively proved by their pathological observations and autopsical researches, that the bile plays no part in this disease; that the liver is seldom affected in yellow fever, and that it is essentially an affection of the stomach and bowels. Such, too, has been the result of almost all recent researches. "Moderate" bleeding has before been shown to weaken the patient, without removing the disease; conjoined, their tendency is to harass the patient, protract the fever, without controlling it, and consume valuable time.

3d. But there is a third mode; the one usually adopted by the mulattresses of the West Indies, and in parts of South America; and is pursued, I understand, in a great measure, with various degrees of modification, by several of our most respectable French brethren here. It consists mostly in diluent and acid drinks, and rubbing the surface with limes, warm diaphoretics and lavements, and the use of the warm bath, and some light occasional aperients. It is vastly superior to the two preceding. With whatever little tendency it may have to *subdue* existing action in the stomach and intestines, it certainly has no tendency to exasperate them. *That risk* is certainly saved; but diluent, cool sub-acid drinks have a tendency to repress gastro-intestinal excitement, cooling the skin at one stage, and producing secretory depletion from it at another, goes far also to remove the same. But the objection to it is, that the gastro-intestinal inflammation is not attacked by sufficiently energetic means; these important organs are left to bear *theories* of disease, trusting to a *vicarious, inefficient and tardy* secretory depletion from a distant surface, together with diminishing the influence of the primary disease.

Hence then, all three of the modes are lamentably deficient; in the 1st, the patient is lost by the time you are prepared to apply your remedy; in the 2d, you prostrate the individual, and drive the goaded organs on to fatal disorganization; and in the 3d, (though infinitely preferable,) its activity is not proportioned to the severity of the disease; the treatment is not sufficiently directed to the *organs suffering mischief*; diaphoresis when forced in an inflammatory disease, as is any other secretion, is always hazardous. It is believed then, that none of them are applicable to the disease, upon any safe or established principle in the highest degree of malignancy, though they are competent to the removal of one of minor intensity. Individuals will sometimes get well in any type of the disease, under any treatment, giving credit to modes of treatment that did every thing to retard, and nothing to advance their recovery, but doing infinitely more injury to the profession and to society, by furnishing one of

those FALSE FACTS that has so long obscured the fair face of truth in the science. I cannot here avoid quoting the apt and appropriate remark of the accurate and sagacious SYDENHAM. "Success," says he, "is not a sufficient proof of the excellency of a method of cure in acute diseases, since some have recovered from the imprudent procedure of old women; but it is further required, that the distemper should be *easily cured*, and yield conformably to its own nature;" and again, "that the cure of a disease by a method which is attended with success only *now and then, in a few instances*, differs extremely from that *practical method*, the efficacy whereof, appears both from its recovering *greater numbers*, and all the *practical phenomena happening in the cure*."

But it may be said, that what would suit one season would not another. If the reasoning upon which the application of physiological principles to yellow fever is based, *be correct* it MUST SUIT ALL SEASONS; a treatment founded upon the physiological and pathological language of organs *must be applicable in all times and all places*, wherever physiological man is the same. But will this apply to the supposed effect of a medicinal agent, (calomel and purgatives,) whose efficacy is dependent for their influence upon a contingent condition, (if they are applied upon *any* principle,) that is forever *varying with every season*: but it is perfectly obvious that this can never take place, when symptoms are interpreted as the language of suffering organs upon physiological principles. The truth of these remarks is not the mere subject of speculation; it has been successful in my hands for years.* It has been equally successful in the hands of others. In Dr. FERAN's practice in Spain, with the old practice, he lost half his yellow fever patients; with the new, but 5 per cent. With the physiological treatment in Gibraltar, in 1829, the mortality was almost nothing—with the mercurial treatment, one in five died. But the physiological mode must, of course, have modifications, adapted to the contingencies that are predominant, varying with the varying condition of organs; there is one condition, however, which is hardly ever absent in yellow fever; it is the gastro-duodenitis, and the circumstances in which the disease varies in different seasons, constituting the differences of type, which has been remarked, depends upon the degrees of determination to other organs, the activity of the sympathies, and upon their varying susceptibilities. Dr. CHERVIN, who has seen more of this fatal dis-

* Vide Essay on "Physiological Medicine applied to the Diseases of Louisiana," published in 1828.

ease than any man living, and of the employment of all sorts of treatment in various countries, says, "that though its fatality would be great under any, yet it was much less under the antiphlogistic, than under any other;" and such is pretty much the result of recent experience in this disease in the West Indies. Let us see what has been the result of other modes of treatment. Dr. RUSH says, "the French physicians lost more than half their patients from the use of bark and wine, Glauber salts, &c. in '93." I believe such a practice has not been more successful since. Dr. HUME, in the West Indies, lost three-fourths; and others in not much less proportion. Dr. RUSH lost three-fourths by tonics in '93. The venerable Dr. JACKSON places a more successful mode of treating it "among the subjects which will admit of 'innovation' in medicine." Eighteen out of twenty died of those who took bark and wine in New Haven in '94. Dr. DESPORTES lost one-half of his patients in St. Domingo by moderate bleeding and purging. Dr. HOME, in Jamaica, lost one-fourth by the same, and afterwards bark and wine. Dr. BLANC considers it "one of the most mortal of diseases;" his remedies were bleeding, bark, blisters, acid drinks, saline draughts, and chamomile tea. Dr. LIND says, "that a greater proportion of the sailors who had no physician at all, recovered, than of those who had the best medical aid. It consisted in the fresh air of the ship, a purge of salt water, and the free use of cold water, and they triumphed over the cordial juleps of physicians.

Such then are some of the results of my observations in this severe disease. It has fully confirmed me in views which can only be acquired through a multiplied course of years and experience, when reflection has divested one of the trammels of education, and time has hardened the feelings against the seductions of hypothesis. Its tendency is to increase my faith in the powers of nature, and the energies of the system, and to lessen my confidence, in that proportion, in the efficacy of drugging. Man cannot give constitution—he cannot increase the amount of vitality—he cannot give restorative energy—he cannot give life, but he can often remove the impediments to nature's restoration—he can lessen the amount of diseased action—he can often remove it in a debilitated frame, though he cannot give the *vis vitæ*—he can increase the apparent phenomena of life, not give the stamina. But it is difficult to divest ourselves of the prejudices of education, and few have energy, independence, and *moral courage* enough to accomplish it. What we have long heard confidently affirmed as truths, we are apt at last to regard as axioms, and to receive with great hesitation and distrust, any

opinions or *data* which go to invalidate them. But "truth is mighty, and will prevail," and after her lineaments have been once fully made out, and her identity clearly ascertained, she is received with confidence, and there is little danger of her being afterwards forgotten or abandoned. If I shall have been so fortunate as to induce my brethren to reflect upon the facts and principles set forth in this paper, my end will be answered, and my ambition gratified: as experience, knowledge, and light increases with time and observation, the system in which we are brought up dissolves—

—————"As charm by charm unwinds
Which robed our *idols* and we see, too sure,
Nor *worth* nor *beauty* dwells from out the mind's
Ideal shape of such; yet still it binds
The fatal spell, and still it draws us on."

Resting the intellect from the soft downy meshes

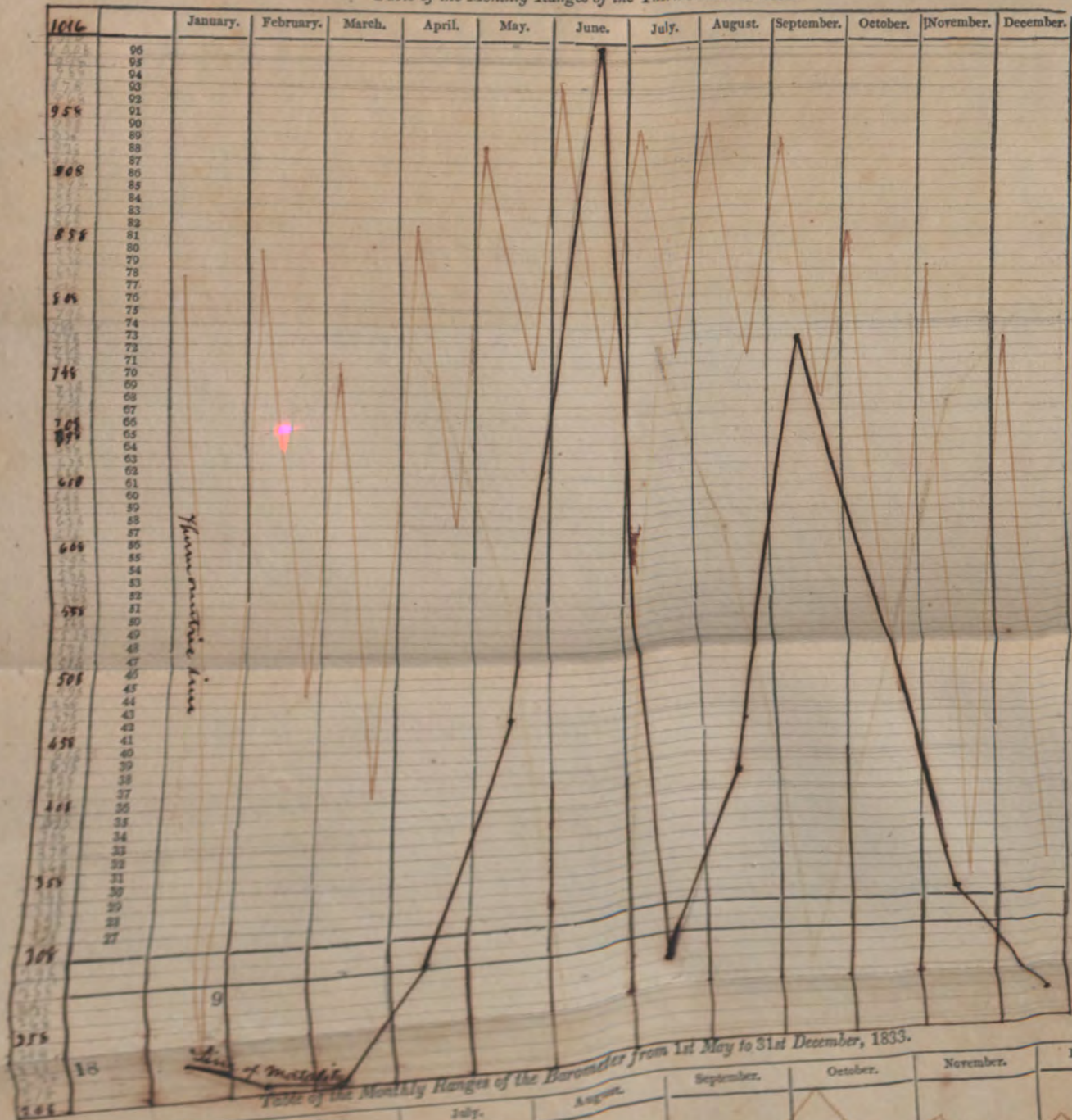
July, 1833.	THERMOMETER.				BAROMETER.				WINDS.							ASPECT OF THE SKY.						Phases of the Moon.	Height of river below high water.		Morality.									
	Sunrise.	Midday.	Sunset.	10 P. M.	Sunrise.	Midday.	Sunset.	10 P. M.	Period.	N.	N. E.	E.	S. E.	S.	S. W.	W.	N. W.	Calm.	Clear.		Cloudy.		Rainy.			Quantity of Rain.		Thunder and lightning.		feet.	inch.			
																			day.	night.	day.		night.	day.		night.	day.	night.	day.			night.	day.	night.
1	75	88	85	84	29.75	29.70	29.70	29.70	A. M.																							6.32 P. M.		
2	75	87	84	84	.70	.69	.66	.66	P. M.																									
3	75	85	84	75	.68	.65	.65		A. M.																									
4	71	84	81	75	.72	.75	.71	.71	P. M.																									
5	71	85	83	82	.73	.75	.75	.74	A. M.																									
6	79	81	82	81	.75	.75	.75	.75	P. M.																	.45								
7	76	86	84	83	.70	.69	.69	.69	A. M.																									
8	78	86	82	81	.69	.70	.66	.65	P. M.																									
9	77	88	81	84	.69	.65	.64	.64	A. M.																								last quar. 10.6 P. M.	
10	75	86	84	85	.64	.63	.63	.63	P. M.																									
11	78	89	86	82	.64	.62	.58	.59	A. M.																									
12	75	90	82	83	.59	.59	.59	.57	P. M.																									
13	81	88	83	84	.64	.70	.70	.70	A. M.																									
14	79	87	84	84	.75	.79	.76	.75	P. M.																									
15	77	89	79	77	.78	.76	.72	.72	A. M.																									
16	79	83	79	81	.74	.74	.74	.74	P. M.																									
17	79	85	84	85	.74	.74	.74	.74	A. M.																									
18	79	87	84	85	.78	.78	.74	.74	P. M.																									
19	75	87	83	80	.78	.83	.80	.80	A. M.																									
20	81	85	80	80	.80	.82	.78	.78	P. M.																									
21	80	84	80	82	.79	.79	.75	.75	A. M.																									
22	80	89	82	82	.77	.79	.78	.78	P. M.																									
23	78	89	82	82	.75	.75	.74	.74	A. M.																									
24	77	86	82	83	.74	.75	.74	.74	P. M.																									
25	78	82	83	80	.75	.79	.76	.75	A. M.																									
26	79	86	81	78	.80	.80	.80	.80	P. M.																									
27	77	86	80	80	.80	.80	.78	.78	A. M.																									
28	78	84	80	80	.75	.72	.69	.68	P. M.																									
29	77	78	80	80	.69	.70	.70	.70	A. M.																									
30	78	78	80	80	.69	.69	.65	.65	P. M.																									
31	76	76	75	76	.68	.70	.70	.70	A. M.																									
Averages.	76.22	85.16	81.90	81.25	29.72	29.72	29.71	29.68																										

Thermometer.—Highest, 90.—Lowest, 71.—Average, 81.13.—Range, 19.—Barometer.—Highest, 29.82.—Lowest, 29.57.—Average, 29.70.—Range, .25.

December, 1833.	THERMOMETER.				BAROMETER.				WINDS.							ASPECT OF THE SKY.								Phases of the Moon.	Height of the river.										
	Sunrise.	Midday.	Sunset.	10 P. M.	Sunrise.	Midday.	Sunset.	10 P. M.	Period.	N.	N. E.	E.	S. E.	S.	S. W.	W.	N. W.	Calm.	Clear.		Cloudy.		Rainy.		Quantity of Rain.		Thunder and lightning.		feet.	inch.					
																			day.	night.	day.	night.	day.		night.	day.	night.	day.			night.	day.	night.	day.	night.
1	54	63	60	59	29.55	29.59	29.60	29.60	A. M.																										
2	44	68	64	61	.60	.62	.62	.62	P. M.																										
3	59	61	64	59	.61	.61	.61	.65	A. M.																										
4	59	65	63	60	.65	.65	.65	.68	P. M.																										last quar.
5	60	64	64	62	.68	.68	.68	.64	A. M.																									2.29 A. M.	
6	53	64	63	59	.68	.67	.67	.69	P. M.																										
7	59	64	59	58	.69	.69	.69	.72	A. M.																										
8	49	62	59	58	.79	.79	.76	.76	P. M.																										
9	54	59	58	55	.72	.71	.68	.66	A. M.																										
10	54	60	59	57	.67	.70	.65	.68	P. M.																										
11	49	58	57	51	.68	.68	.68	.68	A. M.																										new moon.
12	49	56	58	57	.62	.58	.58	.60	P. M.																									1.10 A. M.	
13	59	61	61	58	.50	.60	.42	.42	A. M.																										
14	40	58	56	51	.54	.51	.52	.52	P. M.																										slowly rising.
15	43	57	58	57	.51	.50	.49	.42	A. M.																										
16	41	52	52	46	.51	.57	.53	.60	P. M.																										
17	31	58	49	46	.69	.70	.68	.48	A. M.																										
18	28	51	50	35	.70	.74	.74	.72	P. M.																										first quar.
19	38	50	50	44	.72	.73	.65	.65	A. M.																									11.19 P. M.	
20	44	54	48	43	.48	.44	.40	.52	P. M.																										
21	43	52	50	44	.60	.62	.62	.62	A. M.																										
22	44	53	52	53	.60	.60	.59	.58	P. M.																										
23	53	62	61	42	.45	.50	.50	.55	A. M.																										
24	40	67	66	51	.56	.61	.61	.62	P. M.																										
25	41	53	50	41	.92	.93	.93	.93	A. M.																										
26	36	51	49	44	.92	.92	.92	.91	P. M.																										full moon.
27	41	57	50	45	.88	.82	.81	.81	A. M.																									3.29 P. M.	
28	43	51	51	49	.71	.75	.70	.70	P. M.																										
29	49	67	66	68	.60	.55	.54	.54	A. M.																										
30	66	70	66	65	.58	.62	.60	.54	P. M.																										
31	66	72	69	65	.58	.64	.60	.60	A. M.																										
Averages.	48.03	59.67	57.58	59.45	29.49	29.98	29.62	29.63		6	18	1	4	3	10	7	13		50	18	23	9	9	4	1.46	2.25									

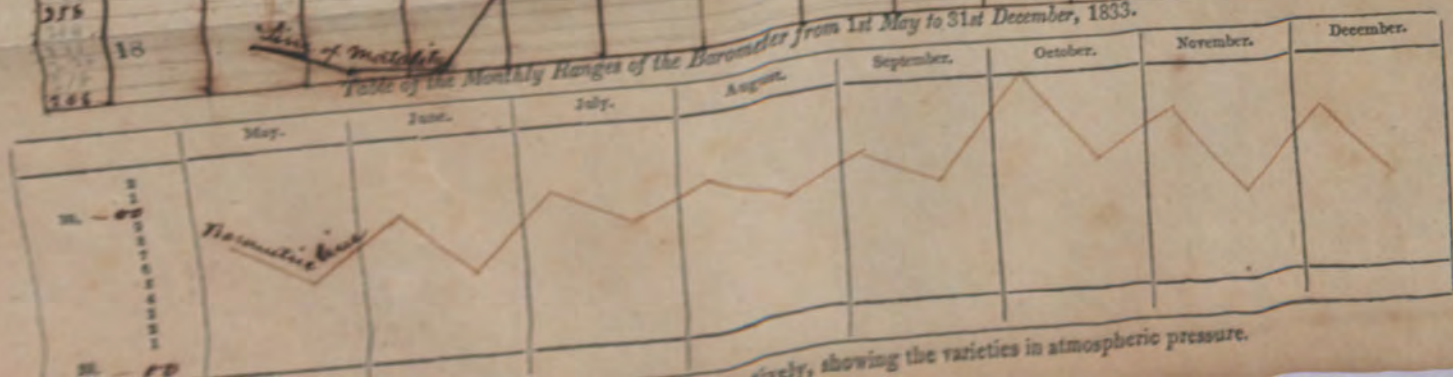
Thermometer.—Maximum, 72.—Minimum, 28.—Average, 56.65.—Range, 44.—Barometer.—Maximum, 29.93.—Minimum, 29.40.—Average, 29.68.—Range, .53.

Table of the Monthly Ranges of the Thermometer in 1833.



Normal range line

Table of the Monthly Ranges of the Barometer from 1st May to 31st December, 1833.



Normal range line

showing the varieties in atmospheric pressure.

June, 1833.	White.				Coloured.				Country.				Total Catholics.	White.				Coloured.				Total Protestants.	Grand total.		
	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Foreigners.	N. Americans.	Louisianians.	Unknown.		Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.				
1	11	1	2	14	3	1		4	1		1	12	18	1			1			1	1	2	20		
2	9	1	1	11	4	1		3	4			7	19									4	19		
3	8	1	2	11		6	5	11	4		2	5	22	2	1							1	26		
4	10	5	1	16	4	8	7	19	5		3	8	35	4	1							5	40		
5	8	4	2	14	6	7	4	17	2		2	10	31	6		6	3					4	41		
6	12	4	2	18	7	10	3	20	1		5	12	38	6	2	2	10	7	1			8	18		
7	15	4	3	22	9	11	1	21	6		1	15	43	21	5		26	10	1	2		13	39		
8	17	3	6	26	10	12	10	32	1		5	20	58	2			2						2	60	
9	21	4	5	30	11	13	7	31	3	2		25	61	6			6						6	67	
10	7	5	5	17	4	10	10	24	6	1	1	9	41	7	2	2	11		2			2	13	54	
11	12	9	5	26	2	6	7	15	11	1	4	10	71	7		3	9	2				2	11	52	
12	4	5	4	13	5	10	4	19	2		1	11	32	11			11						11	43	
13	10	4	3	17	3	14	7	24	3		1	13	41	5	3		9	1				1	10	51	
14	4	1	3	8	5	5	5	16	3		2	3	23	6	1	4	11	1	1			2	13	36	
15	8	3	5	16	3	6	5	14	3	1	2	10	30	8		3	11						11	41	
16	4	4	3	11	3	8	3	14	4		2	5	25	8			8						8	33	
17	4	1		5	1	5	5	11				5	16	5			5	1		1		2	17	23	
18	5	1	1	7	2	5	5	12	2			5	19	7	1		8	1				1	9	28	
19	6	2	3	11	3	6	4	13	1			10	24	6	1		7						7	31	
20	3	3	3	9	3	3	5	11	3	2		4	20	4			4						4	24	
21	8	1		9	1	8	7	16	2			7	25	3			3	2				2	5	30	
22	4	1	4	9		2		2	3		2	4	11	8			8						8	19	
23	4		4	8	1	5	6	11	3		1	6	14	2	1	1	3						3	17	
24	7	1	3	11	2	5	9	16	3	1		7	27	5			4	9					9	36	
25	4	1		5	2		5	7	1		1	3	12	4		2	6	1				1	7	19	
26	3	1		4	1	6	2	9	1		1	2	13	2			2						2	15	
27	2	3	2	7	2	1	3	6	3			4	13	1			1		1			1	2	15	
28	3	1		4	1	2	5	8	3			1	12	2			2						2	14	
29	1	1	2	5	2	3	3	8			3	2	13											13	13
30	2	3	1	6			4	4	3		1	2	10	3		1	4				1	1	5	15	
	216	79	75	370	99	75	143	417	85	9	40	136	787	153	17	21	191	29	8	5	42	233	1020		

August, 1833.	CATHOLIC CEMETERY.											Total Catholics.	PROTESTANT CEMETERY.											Total Protestants.	Grand Total.
	White.				Coloured.				Country.				White.				Coloured.								
	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Foreigners.	N. Americans.	Louisianians.		Unknown.	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.				
1					1	1		2					2	1			2					2	4		
2	2		1	3	3	2	1	6		2			9	2			2					1	12		
3	5	1		6	1	1	3	5				6	11			1						1	15		
4	4	1	2	7	1	2	3	5		1		5	12	3			3					3	9		
5	1	2	1	4	1	1	2	3	2		1	1	7	2			2					2	12		
6	3		2	5	1		4	5	1	2		2	10	1		1	2					1	8		
7	2		1	3	2	1	4	1				7	7	1			1					2	12		
8		2	3	5	2	1	2	5	1		1	3	10	1		1	2					2	16		
9	4			4	3	1		4			1	3	8	7	1		8					1	10		
10		1	2	3	2	3	1	6	1		1	1	3									1	8		
11	1	1	1	3	3			4	1	1		1	3	5			5					5	5		
12	2	1	1	4				4	2		1	1	4	1		1	4				2	6	14		
13	4			4	4			4	2			2	8	4		2	4					2	6		
14	1		1	2	1	1	1	3				2	5	1		1	1					1	16		
15	2	1	2	5	2	1	3	6	2			3	11	5		5	5					4	12		
16	4		2	6	1	1	1	2	2	1		4	10	3	1		4					5	15		
17	5	1		6	1	1		4	1		1	4	10	3		3	2				2	5	5		
18			1	1	1			1				1	2	3		3						2	14		
19	8	1	1	9	1	2		3	2			7	12	3		1	1				1	2	17		
20	4	4	2	10	1	2		3	5			5	13	3		4						4	7		
21	4	1		5	1	1		1	3	1		1	6	1		1						1	25		
22	10	4	2	16			2	2	10	1	2	3	18	7		7						7	19		
23	6	3		9		2		4	4			5	11	5		6		1	1		2	8	9		
24	2			2	1			1	2				3	5		5	1				1	6	14		
25	8			8		1		1	3			5	9	4		4	1				2	5	19		
26	6	2	1	9					1		2	6	9	6	1	1	8		1	1		10	16		
27	3	1	1	5		1	1	2	1			4	7	7	1	1	9					9	14		
28	5	2		7		1	1	2	3	1	1	2	9	5		5						5	26		
29	7	2	1	10			4	4	1			9	14	12		11						12	21		
30	9		1	10				2	2		1	7	10	5	3	3	11					11	26		
31	12		1	13		1		1	5			8	14	12		12						12	26		
	128	31	29	184	24	32	30	87	61	7	13	103	271	117	8	9	134	7	2	4	13	147	418		

CATHOLIC CEMETERY.

PROTESTANT CEMETERY.

September, 1833.	White.				Coloured.				Country.				Total Catholics.	White.				Coloured.				Total Protestants.	Grand total.	
	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Foreigners.	N. Americans.	Louisianians.	Unknown.		Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.			
1	10	1	1	12	1	1	2	5	4	1	1	6	17	8	1	1	9	1	1	1	1	10	27	
2	7	3	1	11					1	1		9	11	12	1		13					13	24	
3	8	3	4	15					1	1		5	17	10			10				1	11	28	
4	12			12	1	2	2	2	5		2	7	15	14		1	15	1				16	31	
5	11	1	3	15	1	1	1	4	4			9	19	10			10					10	29	
6	12	4	2	18	2	2	1	3	5		1	10	21	4	1	5						5	26	
7	10	5	2	17	1	1	1	2	10		1	6	19	9	1	10	2			1	3	13	32	
8	21	2		23			3	4	15	1		7	27	15		15						15	42	
9	23	1	2	26	2	1	3	3	13	4		9	29	8	2	12	3			3	3	15	44	
10	17	4		21	1	1	2	4	10	3		8	25	15	1	18	1	1			2	20	45	
11	21	3	2	26		2	4	6	13	1		12	30	18	1	19	1				1	20	52	
12	13	2	1	16		2	4	4	7		3	6	20	16	1	18	1				1	19	39	
13	14	4	4	22		1	1	1	10	2		10	23	14	1	15						15	38	
14	18	1	2	21					9	1	1	10	21	8	1	9						9	30	
15	11	3	1	15		1		1	7	1		7	16	12	2	14	1				1	15	31	
16	15	2	4	21	4	2	2	8	7			14	29	7	2	10						10	39	
17	8	1	1	10	1	3	1	5	4			6	15	12	2	14	2			2	2	16	31	
18	16	2	2	18			3	3	7			11	21	8		10						10	31	
19	25	2	1	28	2	1	2	5	13	1		14	33	7		9	1				1	10	43	
20	9	1	1	11			1	1	6	1	1	3	12	13		13						13	25	
21	18	1	4	23			1	1	6			16	24	6		6	1				1	7	31	
22	8		4	12	1		1	2	3	1		8	14	5		6						6	20	
23	9	2	2	13	2	1	1	4	4	1	2	6	17	8		8						8	25	
24	11	2	3	16		1	1	2	5		1	10	18	10		11	1				1	12	30	
25	9	1	1	11	1	1	2	4	4	1	1	5	13	18		18	1				1	19	32	
26	3	1	1	5	1	1	2	4	3			2	9	4		4	1					1	5	14
27	8			8	1		1	1	1			6	9										9	20
28	3	1		4	1		1	2	3			3	5										5	14
29	12	2	1	15		3	2	5	3			12	20	3		3						3	23	
30	5	1		6		2	2	4	1			1	8										8	23
	357	54	50	471	21	32	35	88	191	26	16	238	559	274	16	14	204	18	1	2	21	225	784	

CATHOLIC CEMETERY.

PROTESTANT CEMETERY.

October, 1833.	White.				Coloured.				Country.				Total Catholics.	White.				Coloured.				Total Protestants.	Grand Total.
	Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.	Foreigners.	N. Americans.	Louisianians.	Unknown.		Men.	Women.	Children.	Total.	Men.	Women.	Children.	Total.		
1	5	1	1	7					4		2	1	7			5						5	12
2	6	4		10	1	1		2	5	1	1	3	12	4	1					1		6	18
3	5	1	2	8	3	2		5	2		1	5	13	6		3				3		9	22
4	8			10					2			5	10	9	3					1		13	23
5	7		1	8	1	1	1	3	2		1	5	11	8		6	1			1		7	18
6	4		1	5	3	1	4	8	1			4	13	6		6					1	6	19
7	11	1		12	2	1	2	5	3		1	8	17	3		3				1	1	4	21
8	8			8	1	1	1	3	3		1	6	9	4	1	5						5	14
9	8	1		9	2	3	1	6	4	1		4	15	9		9	1			1	2	11	26
10	6	2	1	9	1	1	1	3	3	1		5	10	6	1	7				2	2	9	19
11	7	1	1	9		1		1	3			5	10	6	1	7						7	17
12	16	1	1	18	3	1	2	6	5			13	24	3	1	14						4	28
13	9			4				4	1			7	9	1	1	2						2	28
14	4			4	4	2		4	4		1	7	8	3		3	2			2	4	7	11
15	8	1		11	1			3	3		1	7	14	13		13	1				1	14	15
16	10		3	13		3	4	7	2			10	20	8	2	11						14	28
17	4		1	5			1	1	3		1	1	6	5		5					1	12	32
18	11	1	1	13		2		2	5		1	7	15	6		6						5	11
19	8	1	3	12	1			1	3	3		8	13	4	1	5				1	1	7	22
20	6		2	8	1			1	2	1	1	4	9	6		7						5	18
21	4	1	1	6	2	1	4	7	3	1	3	1	15	7		4						7	16
22	4		4	6				2	2			4	9	10		10						5	20
23	5	1		6		1	2	3	1		1	4	9	4		5						10	19
24	9	2		13				2	3			5	13	4	2	5						5	20
25	8	1	1	12	1	1	1	3	3		2	6	15	4	1	6				1	1	7	20
26	12		2	12			1	1	4			9	13	3	1	5						5	20
27	9	1	2	12		3	1	6	1	1		7	15	3		4	1		2	3		7	20
28	5	1	3	9		2	1	3				1	4	1	1	3						3	18
29	1			1			2	3			1	2	7	1		2						2	6
30	3	1		4		1		3	1		1	2	7	7		7						8	15
31		2		2				2				2	2	4	1	5						5	7
	211	25	34	270	29	29	30	88	81	7	24	157	339	159	18	4	181	9	1	13	23	209	568

A COMPARATIVE TABULAR view of the MORTALITY in New Orleans, during six successive EPIDEMIC years.

Mortality in	1817.(1)	1819.(2)	1820.(3)	1822.(4)	1824.(5)	1833.(6)
August,	489	292	289	169	59*	445
September,	304	594	402	536	371	970
October,	172	313	177	669	229	666
November,	91	126	72	235	90	320
December,	94	100	65	102	51	230
Totals.	1150	1425	1005	1711	800	2631

(1) In this year sporadic cases occurred in May, not regarded as an epidemic until "*July*"—terminated in "*October*."

(2) In this year, there were diverse cases from the 7th of May to the 1st of August, when it became epidemic, and continued with much intensity to the 1st of November, but did not finally cease until the middle of December.

(3) In this year, "*there were several cases the first week of July,*" but it did not become epidemic until late in August, and "*ended about the 10th of October.*"

(4) It commenced this year about the 2d of September, and terminated in the middle of December.

(5) Commenced early in August, (1st week,) and terminated in the early part of December.

(6) It commenced this year the first week in August—soon became epidemic—reached its height about the middle of September, and did not finally terminate until the 1st of November. Amount taken from reports of public papers for the first three months—the two last from sextons reports.

It is impossible to compare the relative mortalities from yellow fever of these years—some commenced sooner, others later; the enumeration of specific deaths by yellow fever is not made in any of them, (excepting probably that for 1822,) but merely the mortality in a certain time; hence this is only intended to make an approximation to the truth, sufficient for general purposes.

The amount in the first three years is derived from a report to the Medical Society here in 1821; that for 1822, from the reports of the Board of Health, (for we *then had* a board, and it was kept well;) that for 1824, from the reports from the sextons of the two cemeteries, and the last, as above stated, the least to be relied on of any.

* This is imperfect, but it was impossible to procure a correct account.

ERRATA.

Letter Dedication:

3d line from the top, 1st page, for "directed," read *devoted*.

In the Preface:

2d line from the top, 3d page, for "Lavaiser," read *Lavoisier*.

6th " " 3d " for "fever," read *fevers*.

13th " " 5th " for "Humeralists," read *Humoralists*.

11th " " 6th " for "Delavigue," read *Delavigne*.

In the Text:

16th line from the top, 3d page, for "which," read *and*.

20th " " 3d " leave out "very."

23d " " 4th " for "its," read *their*.

25th " " 7th " for "at," read *all*.

32d " " 7th " after "1819," insert at *Cadiz*.

17th " " 9th " for "November," read *September*.

8th " bottom, 12th " for "there," read *then*.

31st " " top, 14th " for "of plethora," read *or plethora*.

35th " " 14th " for "deliquum," read *deliquium*.

20th " " 17th " for "Parens," read *Pareus*.

20th " " 18th " for "rinse," read *rinse*.

24th " " 19th " for "excitement," read *excitants*.

25th " " 23d " for "Harley," read *Harby*.

14th " " 25th " "after hours," add *to feet*.

24th " " 25th " for "pulse," read *feels*.

35th " " 37th " for "thing," read *things*.

8th & 9th " " 42d " for "obscurity," read *obscures*.

17th " " 47th " for "diseased," read *disease*.

3d " bottom, 48th " between "to and his," insert *and*.

24th " top, 49th " for "theories," read *the onus*.

New-Orleans, January, 1835.

It is not to be understood by these observations that
 it is to be necessary to suppose that an epidemic disease
 occurs or can occur in which this is the exclusive pathology
 during the influence of 25 years in this disease, and have, we should
 be so interpreted. We each now know that the type of all diseases
 if many contain a certain range, every year, dependent upon the peculiar
 constitution of the atmosphere, & whatever other causes give rise to the
 disease - which are never two consecutive years the same. Were
 it so, one uniform prescription & treatment would be uniformly applicable
 & produce the same effect as it is, still in the Physician consists in
 picking out these types & individual & their peculiarities & adapting the prescrip-
 tions to them - in fact, in the exercise of a sound, discriminating judgment
 in the peculiar living they wear, depend upon the remote cause, which
 is - acting, & influencing, more upon our organs or apparatus of organs
 than upon another, & this is soon recognized by the experienced
 all professional men from the symptoms - in these are the language of
 suffering organs, & he adapts & applies his remedies accordingly - now
 general - now local bleeding - now cath, - now nether - and some
 our diaphanics &c. &c. For our Government the Gastro - Intest, & these
 same - in another the nervous system of organic life - then the brain
 spinal marrow &c. &c. may bear the chief onus of disease & require
 unless & special treatment. So that in fact, yellow fever cannot be limited
 to any one exclusive pathology - always present, never absent - there
 is qua non to produce the disease. And this is the reason that in all
 epidemics of it, the first cases are most apt to terminate fatally
 in its type & peculiar nature is not at first understood & recognized by all
 even many such seasons, we sometimes see a type accompanied with great
 many interesting & remitting forms of the locality, but the subjects present
 in it, when other organs are more especially involved, tracing a great
 variation in the stomach. But still the main features of this fever
 is recognized by the experienced physician, as the acclimating fever of
 all - for in that light I view it, & it is probably the only acclimating
 in man.

These explanations contain a sufficient answer to what the
 well called "Fashion in physic," the Profession is accused of constant mutations
 in their views, not from without reason & without judgement - but
 from a constant, & in fact, a constant, change in the nature of the
 disease & characteristics under various constitutions, we must see
 the means to meet them, must of course, change to be adapted
 to the means which has long exercised the profession, but
 the power of observation - the habit of recording its result, & of
 having interrupted these perpetual mutations - and beyond these
 sagacious observer Sydenham & which he attributed to the
 mutations of the atmosphere - a class of diseases will occur dur-
 ing a year or series of years, & again subside, & recur at a more
 or less remote & indefinite period to come. All these called Epidemics
 of this character, & depend upon sensible or insensible mutations
 thus from the changes in our mode of living &c. which in all ad-
 vanced communities, are considerable.

and duodenum, if not speedily arrested by depletion; the inflammatory character of the diseases that preceded it; the long continuance of the hot dry weather. SYDENHAM, RUSH, HILLARY, &c. have remarked that diseases are made more inflammatory by this description of weather, and lastly the great and immediate benefit from the use of general and local depletion and antiphlogistics.

Dissection showed in every case, inflammation of the *stomach* and *duodenum*, and sometimes extending varying distances into the gall ducts, even as far, in some cases, as the gall-bladder itself; the *liver* usually unaffected; the gall-bladder containing a due portion of *healthy bile*. In intemperate subjects there is sometimes found great engorgement of the *vena portæ*. In the congestive cases, where the system sunk with imperfect or no reaction, pulse unaffected, or small and quick, stupid drunken expression of countenance, the whole alimentary canal exhibited symptoms of the most intense devastation, even the mucous membrane, and almost gangrenous de-

usually found in this disease... ing it to be *gastro-duodenitis* with occasional involvement of the *pancreas*, *liver*, &c. dependant much upon season and habits; but these latter organs are seldom *primarily* involved; their derangement can be relieved without curing the disease; they are seldom the cause of death. This however is not the case with the former; there *can be no yellow fever without gastric symptoms*; there *can be without cerebral or hepatic*; the involvement of these latter organs is often due in a great measure to the treatment. **X** Hepatic or cerebral stimulation *must leave its impression behind it*, and how far stimulants are indicated in the disease, when these organs are so often already *over-stimulated* or liable to become so, must be answered by those who are in the habit of prescribing that class of medicines.

From the foregoing observations and physiological explanation of the symptoms, we presume the following corollaries will be admitted, viz.—1st. That there are *general symptoms* of inflammation.

2d. That there are symptoms of specific or *local inflammation*.

3d. That the *primary seat* of this inflammation is in the *stomach*.

4th. That other organs are but *secondarily* affected, as the brain, liver, &c. Upon this pathology we lay the foundation of our treatment.

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