

HISTORY OF THE DISEASE

USUALLY CALLED

TYPHOID FEVER,

AS IT HAS APPEARED IN

GEORGETOWN AND ITS VICINITY,

WITH

SOME REFLECTIONS AS TO ITS CAUSES AND NATURE.

BY

W. L. SUTTON, M. D.,

GEORGETOWN, KY.



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ERRATA.

Page 44, line 5, after "tibia," read "occurred."

Page 101, line 7, for "ꝛss, ꝛii," read "ꝛss, ꝛii."

Page 120, line 20, for "capsicum, eve. Medicine, &c.," read "capsicum,
Eve: medicine, &c."

A few other typographical errors of little importance will be detected
by the reader.

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SOME ACCOUNT OF THE DISEASE

COMMONLY CALLED

TYPHOID FEVER.

INTRODUCTORY.

A report on typhoid fever made to the Scott County Medical Society, at their annual meeting in April, 1846, in accordance with the constitution of that Society, was the origin of this essay. Subsequently, I reflected that as this form of disease is at present attracting much attention on the part of our profession; that if not a new disease among us, some very important features in it have been overlooked; that in various portions of the West and South, it does not exist, or has not been detected; that it is very important, in this transition stage of our knowledge of this subject, that all the means which can be made available towards forming a fixed and correct opinion, should be within reach; and that a true delineation of this form of disease, as it appears at different times and places, drawn by faithful observers, is very important to coming to correct notions as to its nature, causes, and treatment; I have determined to discharge what I conceive my duty to the profession, and give an account of it, as it appeared in Georgetown and its vicinity, for the last six years. My remarks are not intended to apply to any other time or place. I have depended mainly upon my own observations as to facts. I have taken considerable pains to make myself acquainted with the cir-

cumstances attending these facts; so as to be better enabled to judge what influence these circumstances exerted upon conclusions to be drawn from these facts.

I have endeavored to observe correctly, and to report faithfully. I have no favorite theory to maintain; and if I had, I should desire a better basis than facts badly observed, or unfairly stated. I have conferred freely with my professional brethren, and have their general concurrence as to the correctness of my observations. Facts, not of my own observation, or which go to militate against those, I have given on the authority of the parties furnishing them. Of course I have introduced none which I do not consider fully entitled to credit.

In considering the etiology, and pathology, I have availed myself of the labors of other men, usually in their own words, that no change of meaning might be given to their facts or opinions, by change of language.

In my interpretations of those facts and opinions, I have endeavored to follow where reason and common sense led the way. I have not attempted to give a complete account of the history, causes, symptoms, or treatment of the disease, or form of disease as it may be. I do not pretend to have settled points in its etiology, pathology, or treatment; but I *have* aimed to give a correct account of its symptoms and treatment as observed here.

Upon some points it may be thought that I have expressed myself too strongly, and it may be so. I know that it is extremely difficult to be sure that we are in possession of all the facts in any given case. I know too, that I am as liable to overlook facts and circumstances as others. I can only say, if I have drawn incorrect conclusions, no man will regret it more than myself.

From the fact that I have quoted pretty freely from Prof. Bartlett's work on typhus and typhoid fevers, and in some instances have viewed his facts in a light different from that in which he views them, it may be supposed I take pleasure in differing from him. I hope the gene-

ral tenor of my remarks will show, that my object is truth—not to agree or disagree with any one. Certain it is, I love my profession, and honor its members as the benefactors of my species; and no one of them more than Prof. Bartlett.

The truth is, I look upon his work as an exposition of our knowledge upon the subject; and as it is, or ought to be in the hands of our profession generally, it is convenient as a matter of reference. Valuable as that work assuredly is, I do not think it an objection to the publication of observations made in the West and South, but rather an additional reason for such publications. Differing widely in climate, and in the habits of the people, as this country does, from France and New England, even the same disease may reasonably be expected to present modifications in symptoms, and to require corresponding modifications of treatment; at least observations made in those regions must be verified here, before they can be implicitly relied on. I hope my professional brethren will read this essay, compare the facts and opinions therein contained, with what they have observed in their own practice, and extend to me that charity which a knowledge of the difficulty of properly executing such a task shall suggest—and I hope (may I not be disappointed) that many of them at different points will follow the example, and give me an opportunity of profiting by their labors.

To this essay it may be objected that it is unnecessarily minute in some particulars, or that some portions are even irrelevant to the subject. I feel the objection; but I likewise know that in examining subjects not thoroughly understood, it is difficult to determine the weight which circumstances apparently minute and unimportant may assume; or what may prove relevant or irrelevant to the subject. Certain it is that during my researches since beginning this essay, my views upon some important points have been materially modified.

CHAPTER I.

ARTICLE 1.

NAME.

It frequently happens that a name of disease, which to one person, and in some circumstances, seems peculiarly appropriate, to other persons and in different circumstances, appears very differently.

Such is particularly the case with regard to the term "*Typhoid Fever*," which has been applied to this affection. The term typhoid had had a signification sufficiently definite, as indicating that state of the system, characterised by a quick, weak pulse, a dry, black tongue, great muscular weakness, frequently subsultus tendinum, low delirium, petechia, &c. This signification however has become sadly unsettled by its new alliance. It now has no necessary connection with any one of the group of symptoms, which were formerly necessary to its existence. It is now applied to a state in which the pulse may be strong or weak, quick or slow; subsultus or not, tongue dry or moist, with or without delirium; with or without petechia; occasional epistaxis, a meteoric state of the abdomen; diarrhea.

In fact many cases of typhoid fever, run their course without a single symptom which characterises the "*typhoid state*." Hence it has happened that two physicians talking of typhoid fever, attached very different ideas to the phrase; one having dothineritis in his mind, the other, the typhoid state of bilious fever. I fear that ambiguity arising from this mode of expression, has found its way into our standard writers *e. g.*, Prof. Bartlett

speaking of certain cases, says: "So far from being cases of typhoid fever, even the typhoid state was not present." What meaning does he attach to the phrase here? I apprehend most persons will respond, that state indicated by quick, weak pulse, &c., &c. Yet it seems clearly meant to indicate something necessary to constitute typhoid fever; which as before observed, is not true, of that train of symptoms. On the other hand, to speak of typhoid fever existing without typhoid phenomena, is very close akin to a solicism. It is to be regretted that a phrase of well established meaning, should have been used in a sense materially different from that meaning.

Our phraseology ought to be so uniform, that one man of fair attainments in the profession, should easily understand any other one, when delivering his opinions on medical subjects. I therefore think it unfortunate that the term typhoid fever has been appropriated to this disease. But as the professional writers seem generally to have adopted the phrase, I must consent to the verdict.

It is unfortunate too, that names of disease should ever become fashionable. Some years ago, all cases of fever were congestive—now they are all typhoid fever. I have known cases reported as severe attacks of typhoid fever one day, who werè walking the streets the next. I have seen divers forms of disease, febrile, or not, called typhoid fever.

So that the diagnosis is not, in all cases, and to all physicians at least, as clear as noon day.

This disease is called by various names by different writers: as typhoid affection, dothineritis, enteromesenteric fever, follicular enteritis, typhus fever, putrid fever, adynamic fever, ataxic fever, enteric fever, &c.

ARTICLE 2.

HISTORY.

In the summer of 1841, I was desired to visit a young lady, in whom I took much interest. Her case was quite grave, and it appeared to differ materially from any form of fever, with which I was acquainted.

This difference, I was more able to feel in my judgment, than to describe to others; the principal points being a greater disturbance of the nervous system, and prostration of the muscular power. I availed myself of the assistance of the late Prof. Richardson; but it appeared to me, that the disease was new to him as well as to myself. Two months after this attack, five other members of the same family were seized, a good deal in the same way. It now occurred to me, that the disease was most likely, a form of fever, which had been very prevalent about Paris, Kentucky, several years before, and which as I supposed, had been about Lexington for some years. This I was more disposed to believe, because there had at this time, been a good deal of sickness between the residence of this family and Lexington. Under this view of the circumstances, I felt it my duty to request that some physician, residing in Lexington, might see these cases with me. Dr. Holland was selected by the family, under the belief that he had a very extensive practice, and that he was very successful in the treatment of fever. When he had examined the causes, he gave it as his decided opinion, that it was the typhoid fever of Louis; saying at the same time, that he was very familiar with it, as it appeared about Lexington. Upon my inquiring of him if any dissections had been made about Lexington so as to demonstrate its identity with dothi-enteritis, he answered in the negative. Seven cases oc-

curred in that family, two of which were fatal; a third, a lady of about forty-eight or fifty, who was not supposed to be dangerously ill, died instantaneously without a groan; and a fourth, the first patient taken, recovered of the fever only to go into phthisis, of which she died six months after. One other case occurred in that neighborhood about the same time. During the ensuing winter, the disease appeared in our village, and from that time, it has rarely been altogether absent from our neighborhood, although it has at no time raged to as great extent as it appears to have done in many places.

The time just mentioned is the first, as I believe, that I ever saw the disease. I think so, because it appeared to me at that time, to present a phase new to me; and carrying my remembrance back carefully as in my power, I am not able to identify any form of fever with it. In the winter of 1827-'8 I saw a form of fever in Union county, Kentucky, which I thought at one time, might have been the same; but upon referring to my notes of that fever, taken at the time, I am satisfied that the suspicion is untenable. In the winter of 1837, we had a form of fever here, which my friend Dr. Craig thinks now, was the same fever. I am not able to identify the two as one. I recollect very distinctly that purgatives were very prone to run off with watery stools; and that there was considerable disturbance of the nervous system. But I do not remember, that there was much disposition to diarrhea, when no medicine had been taken; neither can I recollect the features of that epidemic, as those most conspicuous in typhoid fever. I have a distinct recollection too, that there was a material difference in the general appearance of the stools. Although thin, they were less watery than those of typhoid fever. They were also of a decidedly green bilious character. There was however, one exception which made a strong impression upon my mind at the time. In that case, the fecal

discharges had a very striking resemblance to those at present observed in typhoid fever. Like the latter, too, it went on to recovery, without that change as to consistence and color, which we then considered essential to convalescence.

This fever bore a considerable resemblance to that of 1827-'8 above mentioned. Dr. Gano, too, who has been practicing here upwards of twenty years, thinks that for a long time, he has seen this fever. He describes an eruption as having appeared upon the neck and face, and occasionally upon the arms and body, which corresponds with the rose colored lenticular spots of typhoid fever.

CHAPTER II.

ARTICLE 1.

CAUSES—AGE, SEX, RACE, AND PERIOD OF RESIDENCE.

Age, recency of residence and contagion are the circumstances enumerated by Louis and Bartlett as of most importance as causes of typhoid fever. I shall append a table of cases, which I have seen during the last twelve months, which will show age, sex, and color of each patient. It will be seen, that of forty-three cases, twenty-six are between fifteen and thirty years; nine over thirty; and eight under fifteen.

The table shows twenty-seven males, and sixteen females; thirty whites; thirteen blacks. A superficial examination of this table would perhaps convey a very erroneous impression. It will be observed, that of the twenty-nine cases originally mine, eighteen were whites; eleven blacks; of these three whites and no black died.

On the other hand, of the fourteen, whom I saw secondarily, twelve were whites and two blacks; of whom five whites and both blacks died. Consultations are more apt to be held over whites than blacks; therefore the proportion of deaths amongst the whites, in the number seen is unduly large. For the same reason, fewer blacks over whom consultations are held recover. Thus both of those mentioned died. For this reason, I think the cases originally mine, are the proper basis for our estimates. It may be proper to state, that the proportion of whites to blacks, within the bounds of my observations, is about 108 to 100.

I had supposed there was a majority of blacks, but

from observations made with some care, though not able to say precisely, I am fully satisfied of the proximity to truth in the statement above made. Our population is stationary to a great degree. The principal ingress is from students to our schools, male and female, and journeymen mechanics

We have about two hundred students from a distance. Among these, I have not known of more than eight or ten cases of fever in the six years; and I do not know that any one of them had been here less than a year. Neither do I know, with the exception of four, that any case was one of typhoid fever,* I presume, however, that some of them were. This table shows a large proportion of cases between fifteen and thirty years—a much larger proportion of cases over forty years than seems to be commonly found—a large majority of males—a large majority of whites—and we may say nothing respecting those of recent residence amongst us. The field is too narrow to found any general conclusions upon. We can only say such has been the result of facts observed by a single individual in a certain location, during a particular year.

TABLE OF CASES REFERRED TO.

NAMES.	AGE.	SEX.	COLOR.	FATE.
J. Stevens.....	10	Male,	White,	Recovered.
M. Stevens.....	8	Female,	“	“
*M. Daviess.....	19	“	“	“
Mrs. McDaniel.....	45	“	“	“
Taylor	15	Male,	“	“
Reuben	14	“	Black,	“
Elijah.....	16	“	“	“
Harriet	17	Female,	“	“

*Since this was written, I have seen a number of strangers with the fever, still however, not a sufficient number to think that they are at all more liable than permanent residents.

NAMES.	AGE.	SEX.	COLOR.	FATE.
Sam	20	Male,	"	"
J. Wallum	20	"	White,	"
*R. Stubbs	19	"	"	"
*D. Stubbs	14	"	"	"
A. Stubbs	23	"	"	Died.
H. Stubbs	12	"	"	Recovered.
Frances Stubbs	17	Female,	"	Died.
Eliz. Stubbs	12	"	"	Recovered.
J. Hall	65	Male,	"	"
Miss Conway	25	Female,	"	"
M. Johnson	35	"	"	"
L. Bell	15	Male,	"	"
Caroline	25	Female,	Black,	"
George	6	Male,	"	"
*J. Sutphin	21	"	White,	Died.
Mrs. Sutphin	50	Female,	White,	"
*Mrs. Brown	25	"	"	Recovered.
Geo. Brown	30	Male,	White,	Recovered.
*Dick	19	"	Black,	Died.
Julia	45	Female,	"	Recovered.
Milly	45	"	"	"
Lewis	25	Male,	"	"
*Wm. Buck	17	"	White,	Died.
*Browning	25	"	"	"
*Bradford	25	"	"	"
Johnson	18	"	"	"
*Burgess	20	"	"	Recovered.
*L. Flournoy	25	"	"	Died.
†E. Duncanson	12	"	"	Recovered.
†Jane	15	Female,	Black,	"
M. Kershaw	30	Male,	White,	"
*Will	30	"	Black,	Died.
*Miss Tapp	25	Female,	White,	Recovered.
*Mrs. Black	25	"	"	"
James	19	Male,	Black,	"

I did not see those marked with a * in the first instance, I saw them generally during the third or fourth week; four of them I saw only once; three thrice; the other seven I continued to attend until death or recovery. Of the last number, three died. Of the other seven, four died; being just one half of the whole. Of the twenty-nine whom I saw at the commencement of treatment, three died. This great disproportion is explained by the fact, that the first mentioned fourteen were far advanced, and bad cases at the start. Of the twenty-nine, two were treated by diet and regimen alone.

Those marked † were cases which I had treated in 1843, for the same disease. To enable my readers to give to this circumstance its proper weight, I will add two remarks: 1st. These two are the only certain cases of a recurrence of the disease in the same individual, within my knowledge*; but I do not now recollect any case of fever of any kind, recurring in the same individual during the same period. 2d. This occasional recurrence does not prove that this is not a specific disease, because such recurrences take place occasionally in small pox, and other analogous diseases. Wm. Buck had been here about eighteen months. All the others were permanent residents.

By referring to my cases, I am enabled to make out the following tables. It is to be remarked however, that these tables are not to be considered altogether correct, as many cases are not noted; and it is impossible to say

*During the present year, 1850, I have seen two cases which I consider well marked, occurring in persons who had previously suffered an attack. I have also seen some cases, which occurred in persons who were reported to have had the disease previously, and who probably had, but as I did not see them in the first attack, I do not think myself justified in stating them as cases of a repetition of the disease.

what proportion the omitted cases bear to those noticed at any time, or the sex, or color of such omission.

Of the 192 patients there occurred in

Dec.	Jan.	Feb.	Mar.	Apr.	May,	June,	July,	Aug.	Sept.	Oct.	Nov.
3	12	16	8	26	21	21	25	26	17	8	9
Total—Winter,				Spring,			Summer,		Autumn,		
31				55			72		34		

Table of sex and color:

Male,	Female,	White,	Black,
104	88	118	74

Of the 192 nineteen were forty years old and upwards.

I do not know that I appreciate properly the title of a recent residence as a cause of disease. If we consider typhoid fever as a specific contagious disease, to which a person is not usually liable a second time, we will not of course suppose that a person after having it once will, by changing his residence renew his liability. I presume that the activity of this cause is adventitious rather than necessary. I suppose that a large portion of those persons who flock to large cities are young persons, precisely within that period of life, at which the liability to fever of all kinds is greatest—that the change in the mode of living is considerable—that there is an unwonted and undue excitation of the various passions—which all acting simultaneously, have a very great tendency to disturb the regular healthy play of the functions, and of course to produce fever. For this reason I presume this cause is less influential in our rural districts.

ARTICLE 2.

DWELLINGS, ETC.

In every case coming under my observation, where a considerable number of cases have occurred in the same family, there has been reason to think that something

connected with the situation of the house, may have contributed to the prevalence of the disease.

For instance, at Stubbs', the house was old, and dilapidated; the windows in the upper story open, so that there was free admission of wind, rain, and snow; the cellar, which had usually been occupied as a kitchen and dormitory for the negroes, had during the winter, when the disease prevailed, been closed, and made the receptacle of all kinds of filth, into which the water from the house and yard found its way, for want of proper care to drain it off. At John Laws', where the family suffered severely in 1845, the house was in very much the same situation, except there was no cellar. At all other places, where there has been much sickness, the houses are without cellars, and without means of admitting air freely beneath the floors. I have had the floor taken up to examine the state beneath, but have found no sufficient cause.

It is proper to add, that this condition is almost universal among the negro houses, and also among such dwellings for whites as have remained from the early settlement of the country. It is also proper to state, that although the statement above made is true as to those families most afflicted, yet the disease has by no means been confined to such houses, but has been found in new houses of the most comfortable construction.

Very lately I have seen a number of cases which may be thought interesting. On the 3d of April, Mrs. C., about twenty-two years old, became ill of typhoid fever, I saw her on the 10th—then no fever known any where in the neighborhood. She had come home, after an absence of two or three months, some time in February—no fever known in the neighborhood from which she came. The house in which she resided is an old brick, built in 1794, but in a good state of repair and clean. On the 19th Isabella, the woman who waited in the house, sickened. May 1, Moses, Isabella's brother, sickened—

he slept in the same house, but not in the same room with his sister—also a negro man thirty years old. About the same time a boy two years old was attacked—this child slept in another house. During the next week two sisters of this boy, sleeping in the same house, were seized, as also a negro girl, nine years old, and daughter to Isabella, and spending the day in the family dwelling, and the nights with her mother. Also a negro man who slept in the kitchen. May 10th, Mr. C., husband to the lady first sick, and his mother, became ill. About this time, May 20th, a brother of Mr. C. came from an adjoining county, and had some chip rubbish removed from the immediate vicinity of the family dwelling. He spent two or three days at the house, returned home, and was taken sick in ten or twelve days. Another brother visited the family two days after the return of the first: upon his return home he had a severe attack. At the time of this last visit, a brother-in-law and sister with their children and a negro woman as a nurse, arrived on a visit from Missouri. On the 13th of June the sister and nurse were attacked—on the 28th and 30th two of the children became considerably indisposed, remained for two weeks with what seemed to be a mild attack of typhoid fever. A negro man who spent two days there and assisted in laying out a negro who had died sickened on the 16th of June. And my son who had visited the family daily and spent a week, night and day in the family, during their greatest distress from the 16th to the 23d of May, sickened at the end of that time.

A peculiar fatality seemed to attend this spot, as every member of the family complained more or less; and of twenty belonging to the family, eleven had serious attacks, not counting the visitors. The houses in which the negroes were sick had the floors nearly on the ground with no chance for ventilation under them. One house afforded sufficient means for ventilating the rooms inhabit-

ed. In the other, consisting of two rooms, one about fifteen feet square, the other ten, circumstances were not so favorable—in the large room were two beds with curtains, a bureau, table, a chest for clothes, and several chairs, besides a truckle bed under one of the others; this room has an outer door, a small window, and fireplace. In the smaller, was a bed, chest, and chairs—no outer door, one very small window near the door opening into the larger room, no fireplace—the ceiling six feet high—both closely chinked and daubed. At the corner of the kitchen, about twenty yards south of the door of the dwelling house most used, and about the same distance east of the negro houses, was a slop trough, which leaked badly, and suffered the slop to accumulate in a sort of mudhole beneath, giving rise to a very offensive smell. These houses are situated on a bluff some forty or fifty feet high, with a large cluster of trees between them, and a creek which runs on the east and north, which however, had not been sufficiently low at the outbreak of the fever to be suspected as a source of disease.

The sickness was almost entirely confined to those persons who spent their time at and about the dwellings, the field hands being less affected. It is proper to observe that for two weeks during Mrs. C.'s illness, her mother remained with her continually—her father and several of her brothers were there much of the time, but none of them became affected with the disease.

I may remark that this family lives about half a mile from Downing's, and three quarters of a mile from Mrs. Lightburn's, hereafter to be mentioned.

In a considerable proportion of cases, it has appeared to me that the attack was brought on by an undue exposure to cold.

ARTICLE 3.

CONTAGION

Is considered by many as a potent cause of this disease, I shall therefore adduce some facts as observed by myself, and some which have been detailed to me by others in whose accuracy of observation I have full confidence.

1st. Willim Stubbs sickened in Georgetown during the third week of December, 1845, and removed to his father's about three quarters of a mile from town, his father's family being then in good health. This too was about the time when the disease appeared in town. After an illness of three or four weeks he died. About two weeks after his death, two brothers were seized with the fever. About the time they could be considered convalescent, two other brothers and two sisters were confined. One brother and one sister died, and while the other brother and sister were still sick, a young lady, resident in the family sickened. And about two weeks after, the mother sickened, and at the expiration of three weeks died. Thus in a family consisting originally of eleven, all whites, nine were sick and four died.

2d. In May, 1846, John Sutphin visited his sister at Leesburg, who at the time was ill of the fever; he staid with her for several days, and shortly after his return he sickened. About three weeks after his attack, his sister residing in the house sickened. A few days after, a negro boy was taken. In about a week again his mother and a negro woman, mother to the boy, were taken. About two weeks more, a brother-in-law, husband to the sister was sized. Of these, John Sutphin, his mother, and the negro boy died. In the mean time the physician first in attendance on the family sickened, and eventually died. His student, who had been a good deal at Sut-

phin's, and also waited on him, sickened and eventually died.

3d. Young Withers came home indisposed, continued to get worse, and after an illness of four or five weeks died. Four brothers and sisters sickened at intervals of four or five weeks. All represented to have been cases of typhoid fever by Dr. Emison.

4th. On the 23d of May, 1841, Rachel Cooper was taken—the fever then prevailing in a family three miles off—whether she had visited that family is not known. On the 26th of July, I visited her mother and four negroes, who had all been somewhat indisposed for several days. On the 22d August, Jane, daughter to one of the negroes, and sister to the others was taken. So, in divers families the disease has attacked different members after shorter or longer intervals.

5th. The disease appeared at the Stamping Ground, nine miles from this place, about the end of December, 1845. At Christmas, Miss Sinclair left Georgetown indisposed, and sickened upon her arrival at the Stamping Ground. It is said that most of the first cases in that neighborhood had visited her on her return.—*Dr. Black.* I have it however from Maj. McCalla, a relative, and whose connexions about the place were very intimate, that the first cases which occurred in that vicinity *had not* visited Miss Sinclair. And that himself, who had a severe attack, had not seen any one ill of the fever.

On the other hand, whilst a majority of *cases* are found in clusters, a majority of *families* in which the disease appeared have only one or two sick—at least within a range of time during which contagion can be relied upon as the cause.

1st. During the winter of 1845-'6, some twenty or thirty families of our village were visited by the disease; I think two was the greatest number attacked in any one

family. It is true that during the last summer, 1846, some of these families had a case.

2d. At this visitation, the disease appeared in different parts of the town, and in families which had no communication with each other. Miss Sinclair, who was supposed to have carried the disease to the Stamping Ground, was an inmate of Thornton F. Johnson's boarding school, the young ladies of which do not visit among the citizens; and there had been no case of sickness in the family. Again, Wm. Stubbs boarded in a family in which no one had been sick; neither had he seen any one sick since September, when he was said to have visited John Young. I do not know of what disease Young died. Stubbs sickened on 24th of December, after exposure to severe cold. There had previously been a few cases scattered about town, and about this time it became quite common.

Again, on the 1st of August, 1846; I was called to visit five patients at Mrs. Lightburn's, three miles south of Georgetown, all of whom had been attacked within a week. One of these cases was so mild and indistinctly marked, that I did not consider it as a case of fever. At this time there was no sickness of any kind in that neighborhood; these negroes declared that they had not seen any body sick with any disease. It is true that on the 11th of January, preceding, a boy of twelve years old had the disease in the same family. It is also true that on 22d of September, 1845, four months before this last, I was called to five negroes, one woman and four children, (who were all seized about the same time,) at John Downing's, who lives about half a mile from Mrs. Lightburn's. I think it material to state these facts, and also that no communication was known to have taken place between the negroes at Mrs. Lightburn's and those of Mr. Downing.

The cases at Downing's also were without any clue to

connect them with antecedent cases. These cases are all that occurred in that neighborhood, so far as I know and believe, from 1841 to December 1846.

3d. On the 22d of December, 1845, I visited an apprentice of Tyson Bell, who had been ill several days. On the 24th I prescribed for his bed-fellow of about the same age—he however walked the same day seven miles; was confined next day, and had a severe attack. Two journeymen occupied the same room, and one of them at least was a stranger, but neither contracted the disease. Again, during the summer of 1846, a negro woman had the fever, and although very ill, she was compelled to attend to her child six months old, during all of her illness—the child escaped.

I have now given some of the most forcible examples which have come under my observation, tending to show the contagiousness of the fever; and others to militate against its contagiousness. Let us examine them and see to what conclusion we shall arrive. It is easy to understand how a physician with his view fixed upon the first list of cases, should be entirely satisfied that the disease was contagious; nor is it difficult to perceive how one, who should look at the other list, should come to a conclusion altogether different.

It is not necessary that I should read a homily on the difficulties surrounding this subject, contagion, in promoting the spread of disease. Wiser heads than mine have felt the weight of those difficulties, and abler pens have portrayed them. Neither ought we to be too confident that the laws of contagion are at present fully understood. For instance, one of the laws of contagion, as at present interpreted, is that the time between the infection and that of the appearance of the disease “is scarcely ever less than seven, or more than twenty-one days.—*Parr in Voce*. “One, two, three, or more days, and in some cases though much more rarely, even for weeks

after."—*Wilson on febrile diseases. 1st Amer. Ed., Vol. 1, p. 181.* Now it has occurred during the last summer, that a young lady who at the time was a room-mate with three others laboring under small pox, she herself having been vaccinated, saw and played with a child on the 18th of May. The young lady broke out with the varioloid on the 12th of June, and the child with the small pox on the 17th July, (being sixty days from the time she was with the young lady mentioned;) having had no other known chance to receive the infection.*

Again, the distance at which contagion is efficient "is certainly not above a few yards, probably not above a few feet."—*Wilson, v. 1, p. 178.*

Another difficulty in our way, is the almost impossibility which frequently exists of arriving at all the facts of the case. Many persons will run risks of contracting disease, and manfully deny those risks. Yet if they escape, they will afterwards brag of their fearlessness. In our country this is especially true of the black population. No faith can be placed on their asseverations. However, this may be explained, I am every way satisfied that it is a fact.

*I am admonished that there is probably some mistake about this case. I can only say I have made the statement on the authority of Dr. Hood who attended this case and others which grew out of it—that he was entirely satisfied as to the facts—that at the time the young lady played with the child, small pox existed in no house in the county except the house in which she lived and had not been recognized there as small pox—that upon its recognition, June 1st, great alarm pervaded the country. That it appeared in only three families out of town, and they widely separated—that that in which the child lived was farthest from town, and had no communication with any infected family except that stated in the text.

This is another example of the uncertainty of spontaneous origin of contagious diseases.

Again, we are told that certain diseases although usually spreading by contagion, do yet occasionally originate spontaneously. "Whatever be the difficulty of tracing the source of other contagious diseases, it is no difficult matter to detect that of typhus. The combination of a very few circumstances, and those of frequent occurrence, is sufficient to produce the complaint. Typhus, that is, fever in which debility prevails, may arise in ill ventilated and crowded places."—*Wilson, v. 1, p. 175.*

"According to the observations of M. Gendron, typhoid fever propagates itself very slowly by contagion. The interval between the successive cases varies from three weeks to a month; so that the fever is often several months in spreading through a village or neighborhood. The period of incubation he thinks rarely exceeds eight or ten days, though it sometimes extends to fifteen, and is occasionally as short as twenty-four hours.

"He is also led to the conclusion that the power of transmission, or communication does not exist in the early period of the disease; that it is rarely active before the sixteenth day; and in general terms, that it continues from the third week for an indefinite period, including convalescence. He states some facts which seem to show that the contagious matter may remain in a bed for two or three years."—*Bartlett on Typhoid Fever, p. 82.*

Again, "it is easy to see that this question is one of great practical importance. It can be fully settled only by further and more various observations; and these observations for obvious reasons, can be best made amongst the scattered population, and in the small villages in the country." *Id. Loc. Cit.*

Having stated some preliminary matters, let us now turn to the subject in hand. The chain of cases as they occurred in the family of Stubbs, Sutphin, Withers, and others which might be mentioned, was very much the precise course which is observed in families afflicted by the

small pox, measles, scarlet fever, and other diseases, acknowledged on all hands to be contagious. Therefore, contagion is capable of producing such a chain of events. But it is equally true, that the same course is frequently observed in cases of bilious, intermittent, and remittent fever.

I have many times seen one member of a family after another confined with this last form of disease, so as to give an apparent reason to believe in its contagiousness.

Again, I have seen a whole family so afflicted, that there were not enough well to wait upon the sick. We have a right to conclude then, either that bilious fever is contagious or that typhoid fever *may* not be so.

As several cases appearing successively in one family do not prove conclusively that such cases are kept up by contagion, so a single case appearing in divers families does not prove that such cases are not of a contagious character. I can readily believe that such facts take place in scarlet fever, measles, &c., though I do not now recollect any instance of it.

But it is said that diseases which are usually propagated by contagion, occasionally originate spontaneously. I apprehend however, that this is more frequently true in appearance than in reality.* A person may receive an infection and not be conscious of having been exposed to contagion, and the disease appearing afterwards, it is supposed to have arisen spontaneously. This circumstance has transpired twice in the last three years in this town. On the

*I certainly do not mean to say that contagious diseases *never* originate spontaneously. In a practice of thirty years I have seen one case of scarlatina which seemed to arise spontaneously—but one, as at present recollected. The object of my argument is to impress my conviction that typhoid fever arises spontaneously *too frequently* to admit of its being classed among contagious diseases.

9th of April, 1844, a young lady arrived in our town; on the 21st she broke out with measles. At that time we had no measles in our town; but we very soon had plenty. She was positive that no measles existed in the neighborhood from which she came, and that she had seen no person with it whilst on the journey. This version is the more worthy of credit, because she was very apprehensive upon the subject; having been strongly impressed by her family physician that measles would be to her particularly dangerous.

Again, in the latter days of April, 1846, the small pox appeared here, in a room occupied by three young ladies, each of whom took it one after another. Great difficulty existed in discovering the manner of its introduction. At length it was ascertained that a fourth young lady, who had been vaccinated, had arrived at the house two or three weeks before the disease appeared, and had been much in company with these ladies; and further that she had been confined two or three days by indisposition during her journey; and that she had, on her arrival here, two days after her confinement, an eruption, the character of which, as it attracted no particular attention at the time, could not be ascertained. Years before, she had seen small pox, and expressed her opinion that the young ladies above mentioned had that disease. She had not recently seen any one with the small pox, and had no suspicion that she had herself undergone an attack of varioloid, yet such doubtless was the fact.

But according to Sir Wilson Philip, or Philip Wilson, there is no difficulty in detecting the source of typhus contagion—"few circumstances, and those of frequent occurrence are sufficient; ill ventilated and crowded places are all that is necessary." I however do not believe that those circumstances do occur in this section at all.* The

*One of the negro houses at Mrs. C.'s before mentioned comes nearer the description than any house I have seen.

dwelling of our population both white and black, are generally sufficiently ventilated. They consist for the most part of houses but a single room deep, sometimes two, into each of which entrance is through a door in the outer wall, and usually a middle door. There is always a chimney, and usually a window or two. In one of these rooms, say of twelve to eighteen feet square, a family of negroes, say of five to eight, frequently sleep. They usually, even in the summer time, have more or less fire in the chimney every evening. This is the best show for ill ventilated and crowded places which we can furnish in this region. When we reflect that these chimneys very frequently would admit a flour barrel readily, and the fireplace appears to have been constructed more with a view to the destruction than to the saving of fuel, the dwellings too, composed of logs, rarely closely filled in between; I really do not think that such habitations can be called ill ventilated.

When a contagious disease first makes its appearance in a neighborhood, it usually appears not only in a single house, but in a single individual, or it may be in two or three, in quick succession, if so many have been exposed to it at once. It rarely or never appears about the same time in different families, in the same neighborhood, those families having little or no communication with each other. Yet such was its mode of access in Georgetown in the fall of 1845; and such, if we may believe Maj. McCalla, its advent upon the Stamping Ground, the ensuing winter. Again, five cases occurred at Downing's in the fall of 1845; these were in a negro woman and her four children. These were all seized almost simultaneously; they occupied a single room, and no disease was known in the neighborhood.

At Mrs. Lightburn's four cases occurred in August, 1846, almost simultaneously—these occupied three rooms.

At Mr. Cooper's in 1841, five cases occurred in a like

extremely short period, the mistress, a negro woman and her three children. In that family, the negro woman had been little exposed to danger from the case which had occurred in the family two months previously, the others not at all—these four negroes occupied three rooms.

It does appear to me that these cases are altogether irreconcilable with the idea of contagion. No disease being in the family, or indeed in the neighborhood, four or five persons are attacked in a family by a disease (which spreads slowly by contagion) within the space of two or three days. If contagious at all, these, (at least two of them,) must have been cases of spontaneous origin because there was no source to which the disease could be traced; and besides, too many cases occurred at once, to suppose that the disease had been introduced from other families. But it would be very strange, that circumstances sufficient to produce an outbreak of a contagious disease, should exist, and yet that the disease should spread no farther after those first, and simultaneously attacked. This, however, was the case at Mr. Downing's and Mrs. Lightburn's.

Take another case: Tyson Bell's two apprentices sickened, with an interval of about a week. Two room-mates, of an age considered particularly favorable for the invasion of typhoid fever, and one at least, if not both of recent residence in our town, escaped. Again, during the fall of 1846, a negro woman was seriously sick at the same house, and was compelled to attend to her child during the greater part of her illness, but the child escaped.

In addition to this, I have known many cases where the patient was one, whose situation was calculated to produce the greatest solicitude, and of course the members of the family were much exposed to danger, if the disease is contagious, who nevertheless all escaped. I have in my mind now a lady of twenty-five, married ten years, with no children, but extremely anxious to have

some, in the eighth month of pregnancy, and having numerous relatives; during winter sick for four weeks, and eventually dying without communicating the disease to any one of her numerous friends.

From eight to fifteen days is the time of incubation as allowed by Bartlett; but I have already expressed an opinion that we have not all the information on that point which is desirable. I have given a case too, in which it seems well ascertained, that the infection of small pox remained dormant about sixty days. It is true, that contagious matter in the state of fomites, may remain in a state fit to become active, for an indefinite length of time. Bearing these facts in mind, and allowing them all due weight, it does seem to me that it is still too much to ask of contagion an explanation of the cases at Downing's and Lightburn's.

At the time the cases occurred at Downing's in 1845, I am not aware that the disease was any where in the country, certainly not in that neighborhood.

Four months afterwards, it appears in a boy not known to have visited Downing's, and not likely to have done so, being rather too young to run about the neighborhood. Again, seven months after this, four cases occur at once in three different houses, one of them it is true, in the same house as that in which the first was sick. This was the dwelling house of the family, plastered and painted, and altogether as unlikely to afford a lurking place for fomites as any other house. But fomites here could not affect the other three, as they did not go into the house, being field hands. I have said that no reliance can be placed on what negroes say, as to their visiting sick acquaintances. But their denial of such visits does not prove that such visits were made. When there are no sick to visit, they may be believed; and further it is fair to state that those sick at Downing's were precisely those least likely to visit, if there had been cases in the

neighborhood, viz.: a woman and her children, the oldest child twelve years old.

According to my idea of a contagious disease, the presence of contagious matter is, with very rare occasional exceptions, *essential* to its propagation. It is not necessary that every person exposed to the contagion shall become infected. On the other hand, circumstances may exist which shall prevent to a great extent, or even altogether, the spread of the disease. Seed may be sown in the earth, and afterwards so damaged that germination will not ensue; yet no germination can take place where there is no grain to germinate. A contagious disease, whose infection may remain dormant in the system for seven months, or be quickened into life in as many hours; which may appear in half a dozen members of a family, in as many days, without any chance of introduction from without, and then spread no farther in that family, or neighborhood—which can originate in divers families in the same village or neighborhood, those families having no communication with each other—which can originate frequently at divers points in the country, and infect but one or a few persons—which, in one word, shall frequently set at nought all the laws of contagion as usually understood, although it may at times seem to obey those laws, is a contagious disease which I do not profess to understand. Neither does it seem to me, that anything is gained in etiology, by calling in the aid of such an agent.

CHAPTER III.

ARTICLE 1.

SYMPTOMS—MODE OF ACCESS.

In a considerable proportion of cases, the attack comes on suddenly with a marked chill; and occasionally light chills are repeated at irregular intervals.

Most commonly however, the patient complains of indisposition, accompanied by muscular debility, and disinclination to mental exertion. In these cases, the alteration from day to day is so slight that the patient frequently becomes decidedly ill before he is willing to acknowledge that there is anything the matter. Many cases which come on thus gradually, remain mild throughout; others however increase in severity continually, and become the very worst cases of disease. In one case, to be mentioned hereafter, the attack seemed to be ushered in by a state of congestion. I have seen two cases in which the attack commenced with inflammation, swelling and hardness of the breast so as to threaten mammary abscess. Also several in which a dysenteric state of the bowels existed for a day or too; when the disease assumed its usual form.

ARTICLE 2.

PHYSIOGNOMY AND NERVOUS SYSTEM—EXPRESSION OF COUNTENANCE.

SECTION 1. When called to patients laboring under this disease, we are frequently surprised to see the great placidity of countenance. This is so marked in many instan-

ces, that we might suppose there was nothing the matter.

This placidity frequently continues throughout the disease to convalescence or death. In many cases, however, there is in the countenance, a very marked indication of suffering. In some of these cases, the countenance loses its expression of suffering in the progress of the disease, without there being necessarily any abatement in its severity.

SEC. 2. The *sensations* correspond very much with the expression of countenance. When this is placid, the patient replies that he is "right smart," pretty well," "better to day," or something of like import. On the contrary, when the countenance is indicative of suffering, he complains of his head, his back, his limbs, of muscular soreness, or some indefinite sensation of uneasiness.

SEC. 3. The *state of mind* seems to be that of weakness rather than of perversion. In a good many instances, although there appears no perceptible affection of the mind, there is a total forgetfulness of everything which occurred during the attack. I am of the opinion that this is true much more frequently than is supposed. A few days ago, I saw a lady whom I attended in 1844, in an attack of medium severity, and whom I did not at any time, suspect to be at all affected in her mind, neither did her attendants. I asked her how much she remembered of circumstances which occurred during her illness? She answered that the first she recollected, was my telling her that I did not think it necessary to visit her any more. The patient does not answer questions readily, and has not a distinct recollection of events, which have recently transpired, as connected with his situation. But the forgetfulness does not extend to events which transpired before his illness. As the disease advances, this state of mind becomes more marked; and anon, aberration of mind is observed upon first waking. To this succeed delirium, especially at night, and low muttering. Instead

of this low muttering delirium, in a few cases it is of a furious character, such as may well be denominated raving mania. There is usually more or less headache, especially in the anterior stage of the disease. After a few days, this is less complained of, whether the disease is progressing favorably or not. If progressing unfavorably, shaking the head will occasion pain when none is perceived when it is still.

SEC. 4. Senses.—Feeling is rarely much deranged. Sometimes there is muscular soreness which does not admit the limbs to be handled without some pain. *Sight* is exalted; the eyes are not able to bear the usual amount of light, and the patient frequently lies with them closed. *Hearing* is also more acute. Noises which are scarcely perceived by others, are annoying, such as ordinary conversation, or crackling of newspapers in turning them to read. *Tinnitus aurium* is frequently present. As the disease advances the hearing becomes less acute, and occasionally decided deafness takes place. I have made no remarks as to the sense of smell. The *taste* is more or less deranged. How much of that derangement is attributable to the condition of the mucous membrane of the mouth, I am not prepared to say.

SEC. 5. Wakefulness.—At the commencement of the disease there is frequently no sleep for several days; and the patient earnestly desires something to induce sleep. As the disease advances, this state may continue, or be exchanged for more or less somnolence, with a somewhat heavy respiration.

SEC. 6. Muscles.—One of the most distinguishing features of this disease is muscular weakness. A person may lie in bed, and seem to be but little indisposed, may feel well, but cannot walk or even sit up without an unaccountable sense of weakness, frequently attended by a giddiness and indistinctness of vision. This debility is sometimes so great, that the patient can scarcely raise his

head. I have seen one case at least in which this extreme prostration was attended by rigidity of the muscles generally. Like all other symptoms, this is not always equally well marked. I have seen a patient sit up on the side of the bed and wash her face and hands within a few hours of death; and turn herself on the side in *articulo mortis*. In the latter stage of severe cases *subsultus tendinum* takes place.

ARTICLE 3.

SANGUIFEROUS SYSTEM—PULSE.

SECTION 1. In the commencement of the disease, after the chill, if there has been one, there is usually some increase of force and frequency of pulse, but it is not very marked. I have rarely seen it such as to suggest the propriety of venesection. In a majority of cases, the pulse is from five to fifteen beats more frequent in the afternoon than in the morning.

As the disease progresses, the pulse increases in frequency, but usually diminishes in fullness, until at the acme, it ranges from one hundred and ten to one hundred and thirty, sometimes much higher. I have seen cases again, during which the pulse was little affected during the whole course. Again, I have seen one case at least, in which, the pulse remained at fifty throughout; it was full and laboring and seemed to demand the lancet. In a considerable number of cases, when improvement had commenced, the pulse has fallen in frequency rapidly, and has been attended with the same impression of fullness, and laboring.

SEC. 2. *Epistaxis* I have rarely seen, and it has usually been in persons who are habitually liable to it. In-

deed of five persons in one family, which was strongly disposed to epistaxis, or rather in which it was very common, but one is noted to have had it.

During the present year, 1847, epistaxis has been much more frequent in proportion to the number of cases than I have noticed heretofore. One half of all cases having been marked by it. The same remark, however, applies to the measles of the present year. In my own mind, I draw a distinction between epistaxis as it occurs in the early and late stage. In the first instance, so far as my observation has extended, there is a stillicidium of a few drops, of no obvious import, and followed by no appreciable consequences. In the second, the hemorrhage is occasionally alarming, and may be fatal.

SEC. 3. Hemorrhage from the bowels, has been somewhat more common than from the nose. That too, has always been in the advanced stages of the disease, and the cases have been of considerable gravity. I have seen one case, in which there was a considerable discharge of bloody urine. That too was a grave case.

SEC. 4. Congestion.—In September, 1845, I saw a case in a middle aged gentleman of Fayette county, who, from the description of his physician, would seem to have labored for four days under symptoms of a decidedly congestive character, viz.: cold, shriveled surface, frequent, small pulse, hurried, panting respiration, attended by sensations of great heat, and oppression in the chest. This state had been removed when I first saw him, it was said, by sponging the body with cold water. After this, the course of disease was that of a severe case of typhoid fever.

ARTICLE 4.

DIGESTIVE SYSTEM—MOUTH AND TONGUE.

SECTION 1. At the commencement of the disease, the tongue is usually moist, whitish, with red papillæ sticking up through the white coat—at other times, there is little or no alteration from health, in its appearance. Frequently it is broad, sometimes rather narrow. At this period there is nothing remarkable about the lips. As the disease progresses, the tongue becomes less moist, or at least there is more clamminess about it; the papillæ are more distinctly marked, the edges begin to become red, the taste is vitiated, the lips begin to become red, and somewhat dry. There is frequently a slight soreness of throat, perhaps only observed upon swallowing; and by inspecting the fauces, a slight redness may be observed.

As the fever advances, the tongue becomes more and more dry, sticky, and dark; the teeth become encrusted with sordes, the lips dry and disposed to crack. Occasionally the first coat will leave the tongue red, shining, slick, and dry; sometimes moist, but yet shining. Sometimes the tongue is covered with a layer, very much resembling tubercular matter; at other times, with what might seem to be fine particles of coagulable milk, easily scraped off, but soon reappearing. In a few instances the tongue is considerably swelled; it may be at the same time moist. As death approaches the tongue becomes more and more dry and thick, so much so, that it is difficult to keep it moist enough by giving the patient fluids, to enable him to speak distinctly. Presently he becomes unable to protrude it.

SEC. 2. *Nausea and Vomiting.*—There is rarely nausea or vomiting. Yet in a few instances one or both may be

present. But the appetite is gone, or at least there is no disposition to eat. Thirst is frequently urgent. In a few rare instances it happens that the appetite, at least a sensation which the patient regards as an appetite, remains throughout the attack, even until within a few hours of death. In a few instances I have seen towards the close of bad cases, a continued vomiting of dark green bile, very much as in bad cases of bilious fever. Such cases have been attended by yellowish tongue and bitter taste in the mouth.

SEC. 3. *Diarrhea.*—Patients frequently suffer with diarrhea for several days before they are confined to bed. This may consist of frequent small discharges of liquid feces; or there may not be more than one or two dejections a day, but those very large and serous, or they may be only semi-liquid. Again, at the first, there may be no diarrhea; there may even exist costiveness, but this is by no means usual. If the bowels have been costive at first, they frequently are affected with diarrhea after a few days, which indeed many times seems to be brought on by the administration of an emetic or cathartic; but certainly many times without either. These dejections may be semi-liquid, or very watery, of different colors, whitish, greenish—most commonly of the color and consistence of new cider. In a majority of cases, perhaps, not indicating either a deficiency or derangement of the biliary secretion. At least there would appear to be as much bile as is found in dejections of the same degree of fluidity, occurring to a healthy person, if such expression is allowable. These discharges after a few days' continuance of the fever, acquire a very offensive, cadaverous fetor—indeed, at one time I considered this odor peculiar to typhoid fever; but I am now satisfied that I have observed it in other diseases.

Dr. Black, of the Stamping Ground, informs me that he has uniformly seen a deposit of a dark fine powder in

these dejections, even before any medicine had been given; I have commonly seen this sediment, but I have always considered it as the black oxide of mercury. I do not think I have ever seen this sediment when no mercury had been taken. I have certainly seen it when none had been taken for several days. I have also seen it frequently in bilious fever, when calomel produced watery stools. It is of course only to be seen when the stools are watery.

For the purpose of determining whether the black sandy looking matter, found in watery stools, is the black oxide of mercury, I obtained some on the 14th May, 1847, from a patient who had taken calomel and blue mass the previous night; I folded the deposite in paper and examined it the next day. Upon opening it I was surprised to see that it had lost much of its blackness; being in fact of a dirty brownish color. It had an evidently gritty feeling between the finger and thumb; when subjected to a microscope of about sixty diameters, it appeared again nearly black, in grains about as large as blasting powder does to the naked eye, and of very irregular shapes. Muriatic acid dropped upon it converted a very minute portion of it into a whitish powder, (calomel I presume,) but the great bulk remained perfectly unaltered by the acid.

Laid upon the point of a spatula and subjected to the flame of a candle no change took place—no odor was emitted. The grains broke upon being pressed on a tyle, like rather soft sand. Having wasted, in these experiments, what little I had obtained I of course ceased for the present.

As a means of ascertaining the probability of calomel being converted into the black oxide in the bowels, I took some calomel, and subjected it to diluted aqua ammonia of different degrees of strength. The articles were those which I had in the shop at the time, the calomel being

hydro-sublimed. By dropping the solution on the calomel, the intensity of the black color produced, diminished progressively from one part of aqua ammonia to four of rain water at which I commenced, to one part in five hundred and twelve, at which it became of an ash color. But calomel put into a solution of $\frac{1}{1024}$, and shaken gave a decided color much darker than hydrarg. cum creta. Put into a solution of $\frac{1}{4096}$ it became of an ash color. The oxide, reduced by all these processes, was as might have been expected an impalpable powder, exhibiting no appreciable bulk under the microscope.

This experiment has proved to me that although the black oxide of mercury may be found in the bowels, this particular deposit is not it.

The diarrhea continues more or less strongly marked, generally until convalescence is perceptible. After some days, we have occasionally a few points of pus or mucus, sometimes tinged with blood, and sometimes not. Occasionally a case occurs, in which there is a large quantity of mucus unmixed apparently, with anything else. Sometimes the stools are more consistent and of a dark green color, they differ however from the *bottle green* stools produced in bilious fever, by being of a brighter color and more glossy appearance.

As improvement takes place, the dejections become very gradually of more consistence, and very soon there are observed very small particles of well elaborated feces, of about the natural consistence, mixed with the yet liquid stool. The dejections may become less frequent and of greater consistence however, without there being any improvement of the patient. It occasionally happens there is but one liquid stool a day, and it may be that an injection is necessary to produce that. It may be that after the continuance of diarrhea, for a considerable time, the bowels become costive rather suddenly. I saw a case of the kind last summer, and when we moved the

bowels by injection, the feces were of the consistence of health, and of a color which would have been produced by having eaten heartily of stewed dried peaches.

During the continuance of the fever, it occasionally happens that a worm is discharged from the bowels, and as children are very apt to pick their noses and lips, it is sometimes supposed they are troubled with worms; and vermifuges are given for their expulsion; rarely with any success. There is however no reason why children infested with worms may not be attacked with the fever; and it sometimes happens that considerable quantities are eliminated.

Towards the latter stages, considerable quantities of blood, are sometimes evacuated by the bowels. It is a little singular, that, according to my experience, this symptom is confined very much to particular families. Thus in one family in which there were two cases, it occurred in both. In another, where there were nine cases, it occurred in four. Besides these six cases, I do not think that during the last six years, I have seen more than two or three instances of it.

SEC. 4. *State of Abdomen.*—Connected with the diarrhea I will make a few remarks as to the abdomen, as observed externally. There is tenderness upon pressure usually observed at the epigastrium, and especially at the right iliac fossa, there is very commonly more or less distension and tympanites of the abdomen. This tympanic condition is not at all removed by the evacuation from the bowels, even when, as sometimes happens, there are enormous quantities of flatus discharged with the feces. On the contrary, the distension is, in many cases, in direct proportion to the amount of diarrhea, increasing as that increases, subsiding as that subsides. There is however no necessary connection between them, as in some cases there is much distension and little diarrhea, and in others considerable diarrhea and little distension. So

there may be tenderness without distension, or distension without tenderness of abdomen. Again, there may be a rigidity of the abdominal muscles, without either tympanitic distension or tenderness, or various combinations of these states. Upon pressure at the right iliac fossa, quickly and suddenly repeated and withdrawn, a gurgling noise is often evident, occasioned by the presence of air and fluid in the bowels at that point. I have observed it before diarrhea had been noticed, but that made its appearance soon afterwards.

ARTICLE 5.

OF THE URINE

There is not usually any marked affection. Frequently it is rather scant. In a very few cases I have observed a suspension for a day or two, and occasionally it is highly colored and turbid. I have lately seen one case in which no urine was discharged for six weeks, except by introducing the catheter. I have seen one case, in which it was mixed to a very considerable degree with blood; and another in which strangury occasioned by the application of a blister, gave rise to the expulsion of bloody urine with a coagulum as large as my little finger, and an inch and a half long. Strangury in a very few cases comes on spontaneously.

ARTICLE 6.

STATE OF THE SKIN.

SECTION I. *Heat, Dryness, &c.*—During the first few days of the disease, there is usually an evident increase of temperature, especially of an evening, at which times the face, sometimes both cheeks, sometimes only one, is more or less flushed. This redness of one cheek, shifting over to the other is noted by Dr. N. Smith as a symptom of the disease. I do not remember to have noticed its being given as a symptom of any other disease. It certainly appears in typhoid fever; but I have seen it much more frequently in bilious fever, and especially in bilious pleurisy. It was a very general, almost universal symptom in those diseases from October to March, in that part of southern Kentucky in which I lived, from 1820 to 1833: when there was much febrile excitement, both cheeks were generally, not always flushed. There was no necessary connection between arterial excitement, and the flushing of one cheek. On the contrary it seemed particularly whimsical in its appearance. Sometimes one cheek would be intensely red, even to a shade of purple, whilst the other was ashy pale; with no other symptom of excitement—anon, that cheek would become pale and the other flushed. Sometimes it would be only on the cheek; again, it would embrace the ear and run up to the median line of the nose its whole length, but not pass over it at any point, giving the countenance a very odd appearance. The skin is usually dry, rarely harsh. After five or six days the increase of temperature upon the surface generally, is scarcely to be observed. In many cases the temperature is natural or even less than natural. There is a very decided tendency in the knees and feet to become cool.

SEC. 2. *Rose Spots*.—I have never seen what I considered the “*rose colored lenticular spots*,” the typhoid eruption of Louis and Bartlett. I have seen petechiæ in the last stages usually a short time before death. Lest it should be supposed that this eruption has escaped my observation, because of negligence, I will state here, that I am fully confident of having used all due diligence. I have examined the body myself in cases of males, every day during the whole course of the disease. In female cases, I have had them examined in the same manner; and that in no few instances, until I became perfectly satisfied that it is an extremely rare occurrence in this vicinity. I have made the eruption, the special subject of conversation with many of my medical friends, and have never found one who had seen it, if the eruption upon the neck and face as described by Dr. Gano, before noticed, was not of that character. On the contrary, many of my friends have expressed their surprise that they had never observed it, though repeatedly sought for. Dr. Emison who saw this eruption in Philadelphia under Gerhard, and who is satisfied that when once seen it could not readily be mistaken or overlooked, has failed in discovering it. Dr. Prewett who had abundant opportunity to see this eruption in Boston, and who resides about twenty miles south of this, has seen but one case marked by this eruption. He, however, has seen but five or six cases since his return to Kentucky.

I have spoken of rose spots and petechiæ, and it may be well to define what I mean: By *the rose spot* is understood a small round or oval spot, about a line in diameter, very slightly yet perceptibly raised above the adjacent skin, and of a bright red color; usually appearing successively during the second week, and continuing about a week; disappearing under pressure, and returning immediately; finally fading gradually without desquamation — generally not very numerous. Seat-

ed commonly on the breast and abdomen; occasionally upon the limbs. By *petechiæ* I mean dark red spots of different sizes, from half a line to two lines diameter, of irregular shape, though commonly round, not elevated; not disappearing on pressure, being in fact minute ecchymoses; usually numerous; situated on the body and extremities.

Since writing the above, I have been informed by Dr. Evans, who lives twelve miles north of Georgetown, that he has found the rose spots in about one half of the cases in his practice.*

SEC. 3. *Sudamina*.—I have found *sudamina* rather frequently; being present in perhaps a third of the cases. It is successive in its eruption, and goes off by leaving very thin scales. I have seen this eruption continued for several weeks after restoration to health, but most commonly it disappears about the time when convalescence is well established. I have seen one case at least, in which it did not appear until the patient was in *articulo mortis*; at least, I examined for it in the afternoon without finding it; but at midnight I found the patient dying with a plentiful eruption upon the neck and lower part of his face.

SEC. 4. *Desquamation of the cuticle* has been observed something more frequently than *sudamina*. The scales of this desquamation are too large to have been occasioned by the debris of the *sudamina*. The first case which exhibited this symptom, was in a negro, and I was under the impression that it was the consequence of the rose colored lenticular spots, which the color of the skin had

*July, 1850, I have seen within the last three weeks a crop of rose spots. It appeared upon my son, twenty-five years old, who had an attack of the fever in the early part of 1849, and another in the latter part of May last. He had recovered from this so far as to be able to ride for about a week, when, from indiscretion in eating, he had a relapse during which the rose spots appeared and continued four days, not more.

prevented my detecting; but in addition to the fact that I have not seen scales mentioned as a sequel of these spots, subsequent observations have satisfied me, that this symptom occurs frequently independent of any preceding eruption. Its most frequent seat is the chest and back, especially about the loins and sacrum.

ARTICLE 7.

RESPIRATORY SYSTEM.

Thoracic symptoms of a grave character I have rarely observed. I have frequently seen a short dry cough, such as is usually denominated stomach or worm cough. Occasionally there has been a slight rhonchus in respiration. There is frequently a somewhat hurried respiration. Towards the termination of fatal cases, the respiration becomes more irregular and sometimes hurried. The irregularity often is more marked in a sudden expiration than in anything else.

ARTICLE 8.

SEQUELÆ.

I have seen phthisis follow speedily upon typhoid fever in several instances. I have seen a very decidedly edematous condition of the face and limbs succeed the fever. This is most apt to be the case when a sufficient restraint upon the appetite has not been imposed. After severe attacks of this, as of other fevers, it is usual to have a considerable loss of hair. In three instances I have seen this amount to almost complete baldness, the patient los-

ing every hair of his head, though not precisely at once. There is frequently considerable desquamation of the cuticle; but never to a degree so marked as occurs after scarlatina. I have seen one case in which a very painful affection of the tibia, accompanied by some tumefaction of the integuments, which also were exceedingly tender to the touch. A gentleman of my acquaintance had a very painful swelling of the leg: after the disappearance of the pain, the limb remained permanently enlarged.

I do not know that there is anything very important in these observations. I have not seen phthisis occur, except in persons strongly predisposed to it before the attack. We occasionally see an edematous condition of the body, or an inflammation of some particular part of the body (in popular language, a settling of the fever) follow bad cases of fever of any kind. I do not know that they are more apt to follow typhoid than other fevers. It seems to me that inflammation about the parotid gland has been less common than after bilious fever or dysentery, to say nothing of scarlatina.

CHAPTER IV.

ARTICLE 1.

DURATION AND PROGNOSIS.

There is much difficulty in determining the duration of many cases of fever. Very frequently the advent is so insidious that its presence is not noticed until the patient becomes seriously ill, and when the physician sees him, he is not able to give any satisfactory account of his previous state or feelings. Again, for several days, the change for the better cannot be appreciated so as to say with any assurance on what day it commenced. Add to this, that in a given proportion of cases, there is an apparent but probably no real amendment, which is succeeded by an aggravation of symptoms and fatal termination.

It seems to me that the time at which convalescence is decided by Dr. Jackson to have commenced, viz.: "When the patient is able to take a moderate allowance of solid food, the febrile symptoms having subsided for at least two or three days previous to this period," is somewhat objectionable. I think it should be dated from the time when amendment is decided. It seems to me too, that it is not safe to allow solid food for several days, say a week after amendment is evident.

Keeping these obstacles in mind, I will state that on the 6th of July, 1846, Dick, a negro boy eighteen years old sickened, not being known to be ill before; he died on the 12th. Mrs. S. sickened on the 14th of July, having been a good deal indisposed for two weeks, and having lost much flesh; she died on the 20th. These, I think are the shortest courses of fatal cases, which have

fallen under my observation. Whether Dick had been indisposed, but chose to conceal it, I do not know. His attack seemed to be sudden and exceedingly severe. I saw him on the second day of his disease, when his pulse was one hundred and thirty, great distention and tenderness of abdomen, profuse diarrhea, and delirium. I was visiting the house daily when Mrs. S. gave up; she had no fever or diarrhea before her attack. In fact I had made some laxative pills for her the day before her attack, of which however she had not taken any.

J. A. R. aged eight had been complaining of debility two weeks, sleepy, and heavy; was taken April 30, 1847, at night; chilly, afterwards feverish. May 1st—vomited some bile, soon after which I saw him; face red, eyes watery and injected; tongue whitish with red papillæ, lips vermilion; no diarrhea, slight meteorism; gurgling at the right iliac region; pulse one hundred and twenty. *R.* Ipecac. grs. xv. Got very little of it on account of vomiting every time it was put to his lips—threw up a little bile, no phlegm. Within a few minutes after taking ipecac. had a liquid fetid cider stool, and another in fifteen or twenty minutes. *R.* Cal. mass. hydrarg, aa. grs.; iv. pulv. Dover's p. grs. iii. nocte. 2d. Had no stool since I left until this morning, when he had three, much as those of yesterday, pulse 110, otherwise as yesterday. *R.* No med. 3d. Appeared so much relieved that I prescribed nothing and ceased attendance. 7th. Saw him on the farm where his father was at work. This may not be considered a case of typhoid fever, or it may be considered one which had remained latent. However it may appear to others, I certainly, at the time, thought it a well marked case; one that was likely to give me trouble. With the exception of a few such cases as the preceding, I have found those presenting such symptoms go on for two or three weeks.

I saw John Sutphin on the 20th of June, 1846, he having been sick three weeks; he died 12th July, making

six weeks illness. This is the longest case that I have attended regularly, and this only during the latter half of his illness. I have seen one case however who was confined twelve weeks or upwards, a large portion of that time being in a very precarious situation. Such may be considered the extremes of cases seen by me.

In general there is very gradual aggravation of symptoms for six or eight days; then there are from four to eight days, during which no appreciable change takes place. Then there is a very gradual amendment for five or six days more, and then a more rapid improvement.

It would seem that the severity of the attack has very little to do with its duration. How mild soever it may be, it is apt to last two or three weeks. For instance I was myself confined during the last summer, (1847,) for five weeks with, as I think, typhoid fever. There was scarcely a day during the time, when I did not feel as if I were well enough to ride twenty miles; yet I could not sit up with comfort half an hour. After the first few days, I scarcely had any appreciable evidence of disease; and my brethren who visited me frequently, saw no indication for medicine. One of them remarked one day rather dryly, "that if he were lying in bed so long without more manifestation of disease, he should think he had the hypo." After the first few days my pulse ranged from sixty to eighty-five; yet during the fifth week, owing to a very slight indiscretion in eating, and sitting up long enough to write a letter of half a page, my pulse rose up to one hundred and twenty.

Circumstances like this go farther to support the idea of a specific character of this disease than any thing else that I know of.

ARTICLE 2.

PROGNOSIS.

The prognosis of bad cases is made out with considerable difficulty. We may have some very grave symptoms united with others of better omen, viz.: We may have a frequent pulse, perhaps joined with a dry, smooth tongue, but the mind may be clear; the expression of countenance good; the bowels not much vexed with diarrhea, little distention or tenderness of the abdomen; no subsultus tendinum. Again, the pulse may be quick with considerable distension and tenderness of the abdomen; but the mouth moist, little diarrhea; soft skin, no delirium, &c.

Great frequency of pulse, long continued profuse diarrhea, quick respiration, especially if performed irregularly, dry, black tongue, profuse hemorrhage at the latter stages of the disease; subsultus tendinum, low muttering delirium; loud raving; great prostration; discharges of flatus; stranguary, suppression of urine, restlessness, and an impression of being well when very grave symptoms are present, are among the symptoms indicating great danger. If I were to select three symptoms indicating much peril, I would take a frequent weak pulse, profuse and continued diarrhea, and a dry, black tongue. Whatever other symptoms may be present, I hold that a combination of these is of evil import. I do not now remember a case of doubtful aspect, in which one or more of these symptoms were not present; and the converse is true. I do not remember a case in which the three were united which was not a grave case. As one or more of these three, united with other symptoms enumerated as indicating danger, are present so will the danger of the case be.

We must remember however, that there is no disease in which there is more reason to hope, against hope. Thus in a case in which there had been continued diarrhea, with quick pulse, and great muscular prostration, profuse epistaxis came on in the last stage, and death seemed to be averted only by plugging the nostrils; yet recovery was at last rapidly effected. It may be proper to notice a case which I saw in 1849. A young gentleman had been very low for more than a week. Among the grave symptoms was free hemorrhage from the bowels. After one of these discharges he sank very much, pulse became very frequent and too weak to be counted, and it seemed as if death must speedily ensue. He seemed at least as low, if not lower than the last case. Yet he recovered notwithstanding the continuance of hemorrhage from the bowels for twelve or fifteen hours after.

Again, in a case of extreme prostration, profuse diarrhea, delirium, and where in truth the patient was abandoned by his physician, the pulse however remaining tolerable steady, recovery took place. Thus it is that in all cases we must lean to the side of hope. On the other hand we must not forget that there is another side to the picture. In a few cases in which the disease has apparently been mild, when in fact no very grave symptom has shown itself, when the convalescence is considered as already set in, a perforation of the bowel may take place, and death speedily close the scene. I have seen a case in which for four weeks the pulse ranged from sixty to eighty; the bowels never much troubled; the tongue nearly natural; no undue heat of skin; indeed no bad symptom occurred, if we except a moderate but obstinate pain in the occiput. During all this time the patient set up more or less every day, generally in a room adjoining his bed-room, yet at the expiration of this time he began to become deaf, his pulse slowly increased in frequency, his

tongue became gradually coated and dry; presently delirium set in, and during the sixth week he died.

Again, a case may be severe, but improvement may appear to have commenced and continued for two or three days, when an aggravation of symptoms may take place, and the patient steadily grow worse, until a fatal termination ensues. This aggravation may occur without any cause apparent to the physician, or nurse. It is frequently charged upon improper indulgence. If this last has been the cause, we may hope by diligence and attention to remedy the evil, but if it is not, the prospect is truly gloomy, as I do not remember a case of recovery from this state.

I have found profuse hemorrhage in the last stage, much less fatal than I was prepared to expect from reading or reflection. I remember but ten cases in which it occurred. In two only did death follow.* In two cases where I was satisfied a perforation of the bowel had taken place, and when the patient evidently was to live but a few hours, each was impressed firmly with the idea that nothing was the matter.

I have found strangury and suppression of urine, both to be symptoms of evil import. The patient, from whom it was necessary to draw the urine daily for six weeks, was the only case of recovery in which either symptom was observed.

The case above mentioned, in which a general rigidity of the muscles occurred, recovered. I ought perhaps to state that there was no permanent rigidity, but it came on when the body was to be moved. It continued to recur for thirty-six or forty-eight hours.

*Since writing the above I have seen several other cases but no death.

CHAPTER V.

APPEARANCE ON DISSECTION.

Dissections of patients dying of this affection, have not been made, in this vicinity at least, at all commensurate with the gravity of the disease, or the interest of the profession. Doubtless, dissections have been made—but in 1841, I made my first post mortem examination; and at that time, I was not aware that any proof of identity between this disease and the typhoid fever of France and New England existed, save in the symptoms during life. Indeed, I made a special inquiry of Dr. Holland, at the time he was called to see my first lot of cases, if any dissections had been made in Lexington or its vicinity, to determine the point, and he told me that he was not aware of any. I have made but three autopsies; two patients having died about the fifteenth day, the other on the thirty-first. I have also a cast of a portion of the ilium, taken by my son from a patient who died at the end of the third week.

A. Stubbs, aged twenty-three, had been sick fifteen days, during which time great general uneasiness, considerable pain in the abdomen and throat, excessively dry, cracked tongue, and coolness of the extremities, were the most marked symptoms. Meteorism, or diarrhea was never considerable; pulse for a week before death one hundred and fifteen to one hundred and twenty-five; no rose spots; no sudamina until the day of his death, when a crop appeared upon his face and neck. Died March 15, 1846.

Autopsy twenty-three hours after death.—Muscular contraction very rigid; abdomen not distended; the skin as hard

to cut as parchment; [a blister had been applied on the abdomen on the 5th;] the omentum very much injected and extended down to the pubis; the bowels, when exposed by raising the omentum, appeared considerably injected, their calibre diminished. *Liver*, apparently healthy. *Stomach*, externally of good appearance, internally considerably injected below the middle depression, and empty, except that the surface was covered with good looking bile. *The intestines* throughout were lined with the same bilious matter, otherwise empty; the small intestines red internally throughout their course; near the ilio-cecal valve they were more highly colored externally, and internally presented elliptical plates distinctly elevated and some of them ulcerated in numerous distinct minute points; solitary glands distinctly thickened, and some of them ulcerated; the mucus membrane considerably injected, having veins distended with dark blood interspersed. *Colon*, externally many blood vessels; the calibre very much diminished, cord-like, the lateral pouches being nearly obliterated. The spleen, pancreas, and kidneys, not examined; the thorax not opened. In fact we had to make the examination surreptitiously, and in the house where there were more lying very ill, and, of course, imperfectly.

2d. Ben, aged twenty-five, had been sick about two weeks; profuse diarrhea, mostly of a dirty black green. At first considerable pain in abdomen, subsequently but little; considerable tympanites; tongue furred, whitish; pulse from seventy to eighty, never became frequent. During his illness he vomited a dark green bile, but not enough for it to be considered a prominent symptom. There had been great muscular weakness; but Dr. C., who was kind enough to invite me to witness the autopsy, informed me that he did not consider the case at all dangerous until a very few days before death.

Autopsy.—Considerable emaciation. *Abdomen* disten-

ded; upon laying it open the whole of the abdominal viscera were of a uniform color, difficult to describe, perhaps a leaden color tinged with dark green, would be as good a phrase as any other. This color extended to the peritoneum lining the abdominal walls. *Liver* was of a healthy color on the convex side, on the concave was darker than the color of the bowels; an incision into its substance showed a healthy structure, so that its color probably depended upon the shade given to the general color of the bowels by the darker one of the liver. Gall bladder distended by dark green bile. *Stomach* very small, apparently healthy, but not opened. Duodenum of good calibre, not opened. Jejunum empty, less colored than the other viscera. Ileum well distended with air, and dark green bile; a portion taken from the upper part of it, showed the mucus coat somewhat injected, otherwise healthy; no part of the ileum, or indeed any of the bowels exhibited any thickening of its coats, or any contraction of its diameter; but upon removing fifteen or eighteen inches of the lower portion of the ileum, emptying it and washing off the bilious matter, several elliptical patches and solitary glands were found slightly ulcerated, without apparent thickening or diminution of the walls. Colon considerably distended. Spleen enlarged, almost globular, very red and much softened, breaking down under the handling, and a considerable quantity of blood was lost from the vessels ruptured in extracting it. The pancreas and kidneys not examined. *Thorax*, heart and lungs healthy.

3d. Sylla, aged forty-five, sick thirty days. Died August 19, 1841.

Autopsy twenty hours after death.—About one inch of fat covered the abdominal muscles; omentum well down in the pelvis; stomach moderately distended with air and a little fluid; externally and internally healthy, if we except a small spot just below the central de-

pression, which exhibited a group of innumerable minute red specks, as if the point of a fine needle had been repeatedly applied. The small intestines in various places appeared diminished in volume, otherwise sound until we approached the lower end of the ileum, where externally it was dark and contracted. Upon laying it open, a number of ulcers were to be seen varying in size, some larger than a grain of wheat, others larger than a twenty five cent piece. They extended to the peritoneal coat. In some of the smaller ulcers, the edges were thickened, in the larger there was no thickening of the edges. The intermediate spaces were filled with enlarged veins containing dark blood. Near the ileo-cæcal valve there were some large very irregularly shaped ulcerations. In the cecum and upper part of the colon, were similar ulcers, also near the anus. The colon externally was of a healthy color, but very much diminished in calibre; internally throughout, as dark as a mucus membrane could well be. The rectum in the same condition. In the bowels was a small quantity of semifluid yellowish fecal matter. Some of the mesenteric glands enlarged. There was very little blood in the vena cava or any of the large veins. Indeed there appeared a very considerable scarcity of blood in the cutaneous veins and those in the cavity of the body. *Liver and pancreas* healthy. *Spleen enlarged* and softened. Bladder and uterus apparently healthy externally, but neither was opened.

CHAPTER VI.

ARTICLE 1.

DIAGNOSIS AND NATURE.—GENERAL REMARKS.

“Our diagnosis can never be founded here, as in many other instances, on a few positive physical signs. It must always be rational, not absolute. The evidence upon which our verdict is rendered is wholly circumstantial. Notwithstanding all this, and though cases sometimes occur so enveloped in obscurity as to baffle the skill of the most careful and experienced observers, it is still true, that there are few general diseases the diagnosis of which is so well established, and so certain as that of typhoid fever. * * * Setting aside, as I do for the present, the true typhus fever, there is no disease more readily and positively recognised than a case of well marked typhoid fever, of extreme or even of average severity, when observed from its commencement and followed through its entire course.”—*Bartlett on Typhoid and Typhus Fever.*

Just before the quotation first above made, the author informs us that there are no two or three symptoms which show the presence of this disease—that there are no two or three symptoms which may not be absent during the whole course of the disease. He might have made his statement even broader than that. A majority of the symptoms even of those considered most characteristic of the disease may be present and yet the disease absent and *vice versa*.

I shall not go over a repetition of all the symptoms

which may be looked for in this disease, but only some of those which I consider of most importance, presuming that the patient is seen during the first week. A tongue whitish, moist, or beginning to become clammy with red papillæ showing through the white coat, and reddish edges and tip; giddiness and tinnitus aurium upon rising; more or less uneasiness of the head; tenderness at the epigastrium or right iliac fossa; tympanitic state of the abdomen, diarrhea, the dejections of a dirty yellowish color, very liquid and very offensive, of a cadaverous odor, with or without griping; great muscular debility; a pulse increased in frequency, it may be increased or diminished in volume and strength; occasionally a cadaverous smell of the body. Although, as before observed we may have a case of typhoid fever with a majority of these symptoms wanting, or a majority of the symptoms without the fever, yet when we have something like the assemblage just enumerated we should be on the look out for the disease. I will offer a few remarks upon the value of each of these symptoms.

The tongue above described is such as I have most frequently seen in recent cases of fevers; but it is also found in cases of intestinal irritation no matter from what cause it may arise. In measles and scarlatina at the commencement, it is very much of the same character.

Giddiness and tinnitus aurium may attend gastric irritation or debility from whatever cause. Tenderness of the abdomen may attend gastritis or enteritis. Tympanites may attend peritonitis, pneumonia, dysentery. Diarrhea, with discharges as described, I at one time considered nearly pathognomonic of typhoid fever, but I have seen it in pneumonia, in measles, and bilious fever and cholera—indeed, during the last few years it has come to be very common in most of our diseases.

Great muscular debility attends many forms of disease in nervous temperaments. With the same amount of ac-

companying symptoms however, I think the debility in this disease is greater than in any which I have observed. Dr. N. Smith considered a cadaveric smell of the body as pathognomonic; believing that if introduced blindfolded into a room where the disease was, he could detect it. Professor Bartlett seems to be of the same opinion. I will add that during the last summer, a gentleman, whose family had suffered severely in the East with fever, was introduced into the room of a patient, suffering with the disease, who immediately recognised the odor. Still there is frequently some difference between what a man thinks he can do, and what he can actually do. For example: during the winter of 1818-'19, whilst attending a course of lectures in the University of Maryland, my room-mate became sick and had the attendance of Professor Potter, who assured him he had measles. Mr. Sanders insisted that could not be the case, because he had had both regular and French measles. Professor P. however had more confidence in his own diagnosis than in that of his patient, and replied that if he had had forty kinds of measles, the eruption would appear in the next twenty-four hours—that he had no difficulty in detecting the measles by the smell of the patient. Upon his next visit, sure enough, he found the eruption—not of measles as he acknowledged, but of typhus fever. And if I could depend upon my recollection for twenty-eight years, I would say that eruption corresponded precisely with my idea of the rose spots of typhoid fever, and the only spots I have ever seen which did.

By the way, I remember distinctly his teaching that in typhus fever there was always inflammation of the bowels, but I do not remember that he located that inflammation in the ileum; or that he taught that ulceration was common. On the contrary I have always been under the impression that he and Broussais, both taught that the inflammation was in the stomach and duodenum. How

true my impression of either case is, I do not know, or whether my notion is not founded on a somewhat natural interpretation of the term gastro-enteritis.

But to return from this digression, I have observed this odor in many patients, ill of typhoid fever—in many, I have not detected it. I have also noticed it in patients laboring under various other diseases.

ARTICLE 2.

DIAGNOSIS FROM BILIOUS FEVER.

A person who has been in the habit of treating remittent fever will, upon seeing a case of typhoid fever, readily perceive that there is something of an unusual appearance in it. He may not suspect it to be a fever of a different type, and may have difficulty in ascertaining what causes operate to produce the anomalous train of symptoms. He may even have some difficulty in identifying the anomalous characters, but still he is sensible that the case is one varying materially from such cases as he has been in the habit of seeing. It is true that there are cases which, appearing to partake of the nature of remittent bilious fever and of typhoid fever, may be classed with difficulty; such cases occur respecting most diseases at all analogous to each other; but in the vast majority of cases there can be little difficulty in determining in what list to place a given case. The first distinguishing feature which I shall notice is the period of prevalence.

1. Typhoid fever occurs at all seasons indiscriminately. It is true that in some years it will be found to prevail mostly during the fall or summer; but in other years its period of prevalence will be winter or spring; and very generally it will rage with much the same intensity

throughout the year. Bilious remittent fever on the other hand may show, it is true, an occasional case in the winter or spring, but rarely if ever prevails extensively at either period, but rages with violence more or less marked, in July, August, September, October, and November.

2. A second distinguishing feature between these two diseases is the liability to return—relapses. Relapses rarely take place in typhoid fever. By relapse I mean a falling into a state essentially the same as that which existed in the original attack, *e. g.*—if during convalescence from measles, a patient is exposed to cold, and catarrhal symptoms attended with fever come on, I do not call this a relapse; but if during convalescence from bilious remittent fever, a patient from any cause, has a return of his paroxysms of fever, either in the remittent or intermitting form, that I call a relapse; because although there may be great difference in the severity of the paroxysms and of the intervals of return, or even of the trains of symptoms which constitute the paroxysm, yet the latter attack is essentially the same as the first. In this sense a relapse rarely takes place in typhoid fever. On the other hand this disposition is one of the most strongly marked characteristics of remittent fever. Indeed a person who has had intermitting or remittent fever, cannot be pronounced free from a liability to relapse, for a year afterwards.

3. In the cold stage of the two fevers there is a marked difference. In a large majority of cases of typhoid fever, the cold stage is not very distinctly marked; a chilly sensation of greater or less duration being somewhat common, while many cases are not attended by any chill which has fixed the attention of the patient. It is true, that in many cases of remittent fever, there is but a moderate chill at the onset; this chill in such cases being about as severe as those occurring with most severity in

typhoid fever; but the access of bilious fever is usually marked by a severe rigor, amounting to decided shivering and chattering of teeth, which it is impossible for the patient to control. This chill, rigor, or ague, is less and less distinctly marked as the disease progresses until it becomes scarcely appreciable.

4. There is a very marked difference in the manner of recurrence of the cold stage. When that stage is repeated in typhoid fever, it is at uncertain intervals and rarely amounting to a distinct rigor, but rather an indefinite sensation of discomfort. In remittent fever, the rigors return with astonishing regularity. It may be that the paroxysm returns every day, or it may be every other day, or at some other interval; but whatever that interval is, it can be soon ascertained. Again, it may return at the same hour at every revolution; or it may return an hour sooner, or an hour later at each period. Having these elements of computation, we are enabled, after carefully noting two or three paroxysms, to predict within fifteen minutes, the time at which the next paroxysm will appear.

5. In typhoid fever, the hot stage comes on very gradually, and the heat of skin, fullness and frequency of pulse are rarely very great in the first days of disease; subsequently the heat of skin abates, but the frequency of pulse increases. In bilious fever the transition from the cold stage to the hot is abrupt, the pulse becoming full and bounding and the heat of the skin great.

6. There is no regular sweating stage in typhoid fever. It is true that the skin occasionally becomes more or less moist, nay there is sometimes a real perspiration, but the occasions upon which this last is observed are rare, and no one can calculate upon the time when it may be expected. In remittent fever, especially during the first days, there is usually a distinct moisture appearing a short time after the febrile paroxysm begins to abate.

7. The tongue at the onset of typhoid fever is usually little different from its healthy state; it gradually becomes red at the tip and sides, a whitish fur forms on the upper surface, through which red papillæ show themselves. As the disease advances it becomes dry, occasionally casting off the fur, and assuming a smooth shining appearance; frequently it has a dark brown coat. In bilious fever, the tongue is usually covered with a whitish fur at the commencement, if not, it becomes so speedily, the fur changing to a tawny or yellow, and in bad cases to dark brown, when it likewise becomes dry. When the tongue begins to cast off its fur, it is done gradually, commencing at the tip, and is always hailed as an evidence that improvement has commenced; the part from which the fur has separated looks well, neither unnaturally red nor dry.

8. The stomach is rarely much troubled with nausea or vomiting in typhoid fever. In bilious fever, gastric derangement with vomiting of bile is a frequent symptom.

9. In typhoid fever diarrhea, more or less considerable, generally attends from the commencement of the attack, frequently it is observed to have existed prior to it. The dejections are different in color and consistence; in a majority of instances not showing a very marked alteration in the quality or quantity of bile, as compared with stools of similar consistence, occurring in persons otherwise healthy; but whatever the color, they are attended by a horrible fetor, which has been termed cadaveric. In bilious fever, there is generally a decided tendency to costiveness, which usually remains more or less marked during the attack. When stools are procured by purgatives they many times have a very offensive odor, but the odor is of a bilious, not of a cadaveric character. It is true that in some epidemics of bilious fever, there is con-

siderable *bilious diarrhea*, the dejections being so acrid as to excoriate the anus.

10. There would seem to be more epigastric tenderness in typhoid fever; there is also a notable tenderness in the right iliac region which I have not observed in bilious fever. Tympanites is almost always present to a greater or less degree in typhoid fever; not commonly so in bilious fever.

11. It would seem from the observations of others, (not from my own,) that rose colored lenticular spots on the skin are very generally to be found in typhoid fever. I have found sudamina present in something like a third of the cases in that disease. I have also seen desquamation of the cuticle in about the same proportion. I have had a good deal to do with bilious fever, and am not aware that there is any peculiar eruption attending it. It is true that occasionally an eruption appears in consequence of irritation of the *primæ viæ*; but such eruption varies very much in its appearance. Whelks as large as the finger nail, red, decidedly elevated and attended with a distressing itching; and numerous vibices, red and slightly elevated, have been perhaps the most frequent. The rose spots, desquamation of the skin or sudamina I have not seen. When an eruption appears at all (unless it is petechial) it is commonly at the commencement.

12. The duration of typhoid fever upon an average, may be put down at three or four weeks. Unless in some cases which appeared to be this fever, and which were relieved in a few days, I do not know that I have seen a case decidedly convalescent before the tenth day. I should say that the average duration of bilious fever is not more than two weeks, if that long. Many cases are cured in three or four days, and the ninth day is popularly considered *the* critical day. Either disease may extend to sixty days or more.

13. Another distinguishing mark may be stated, to-wit:

the effects of remedies. In typhoid fever general *blood-letting* rarely is called for, and in my observation when used, has been followed by no benefit. In bilious fever, it is frequently of much advantage; directly, in allaying febrile excitement; indirectly, in favoring the operation of cathartics. *Emetics* need to be watched in typhoid fever to prevent their increasing the diarrhea. In bilious fever, they do not produce diarrhea, on the contrary, we frequently give a purgative on the same evening after an emetic—indeed not unfrequently combine them. *Cathartics*, particularly calomel, operate differently in the two diseases. In typhoid fever, a moderate dose is beneficial at the beginning, it may produce bilious purging, but almost always the color is yellow, and the consistence thin; neither can we make much alteration in the quality of the dejections, at least for the better, by increasing the dose. In bilious fever calomel is emphatically *the* purgative upon which chief reliance is to be placed. A moderate dose, say five to ten grains, may cause watery purging, but increasing the dose to fifteen, twenty, or thirty grains changes the character of the dejections very much. They now become consistent, bilious, and dark bottle green in color. Such stools in bilious fever almost universally, (if I were to say universally I think I should tell the truth according to my observation,) are followed by amendment. Such stools in typhoid fever I have never seen from any sized dose of calomel, and I have given it in doses of five to sixty grains.

In some of the cases of typhoid fever in which the stools approximated nearest to that character, the disease continued to grow worse and eventually proved fatal.

14. Typhoid fever does not admit of much activity of treatment. Bilious fever requires considerable activity.

It will not be supposed that the foregoing remarks apply to extreme or irregular cases of disease, but the usual form and as generally applicable to the first week of

disease, (unless a later period is obviously referred to,) when we may be presumed to be required to identify the disease.

In the latter stage of disease, that which heretofore has been called the *typhoid stage* of disease, the prominent symptoms will be very much the same, whether that disease be a fever properly so called, (bilious, typhoid, typhus,) an exanthema, or a phlegmasia. So we will say nothing as to that stage.

Since writing this diagnosis I have examined Professor Wood's work on Practice in which he expresses the same opinion as to the difficulty of diagnosis in some cases between typhoid and bilious fevers. "I have seen a case of this kind in consultation, which was considered by a skilful and experienced physician as bilious fever, but which I suspected to be enteric fever, from the state of the bowels, connected with commencing meteorism and the character of the cerebral symptoms. The patient died in about a week, and glandular patches of Peyer were found enormously enlarged," v. 1, p 323. Again, "I believe that occasionally the two complaints are commingled, in consequence of the co-operation of their causes. Thus cases having all the essential characters of enteric fever occasionally end in intermittent; and bilious fevers or affections which cannot be distinguished from them, sometimes show the signs of enteric fever during their progress." p. 329.

ARTICLE 3.

THE DIAGNOSIS OF TYPHOID FROM TYPHUS FEVER

Is held by those who consider these as distinct diseases to be a matter of no great difficulty. Absence of diar-

rhea, of tympanites, of tenderness of the abdomen; presence of petechiæ are the marks of typhus. Diarrhea, tympanites, tenderness of the abdomen, gurgling upon pressure in the right iliac region, rose spots, are the diagnostic marks of typhoid.

In order to put this matter in a clear light and show the strength of conviction abiding with many as to the distinction between the two diseases, I will insert a letter from Dr. Power, of Baltimore, to Dr. Bartlett, found at page 272 of his Treatise on Fevers. "The questions you ask have interested me very deeply, and this summer for the first time, I have had ample opportunity to fix definitely my own opinions. What I write you now resumes the opinions also of Dr. Chew and T. Buckler, who saw the disease throughout its whole visitation in this city; nor do I know of one gentleman who had any opportunity of studying it here who differs from us.

"We have had for the last fourteen months an epidemic of typhoid fever in Baltimore. The wards of the almshouse and infirmary have constantly contained a large number of cases of this disease, presenting nothing remarkable, save that the cases had, as a general rule, more the adynamic type than in former years, and required more stimulation. Early in May two vessels arrived bringing Irish emigrants, one from Liverpool, the other from the South of Ireland. Other vessels succeeded these, so that upwards of two hundred cases were treated at the infirmary, and upwards of eighty at the almshouse. These cases were *typhus* so exactly corresponding with Gerhard's description of the Philadelphia epidemic of 1836, that I am constrained to say, I know of no better portraiture of any disease, than that which he has given of typhus fever. I made or assisted at twenty-six post-mortem examinations, in *not one* did I see any trace of the peculiar lesion. In nine of those who died having loose bowels during life, we found either the lesions of dysen-

tery or of diffused muco-enteritis; no mesenteric alteration in any case. The parenchymatous organs and mesenteric vessels were congested with dark fluid blood; and the condition of the spleen, bronchial mucous membrane, lungs and brain resembled what we find in congestive remittent or typhoid cases. The stomach was uniformly more altered, and presented deeper traces of inflammation than in typhoid fever. We had fourteen autopsies of typhoid fever during the same period, and it thrice occurred that we had the bodies opened side by side for the sake of comparison made at the time.

“The mode of access, facies, march, eruption, symptoms, treatment, and convalescence are all different between the two diseases. We had both forms of fever at once under our observation, German emigrants and domestic patients, with typhoid; and Irish and English with typhus. Nay, more than this, four of the seamen of the *Rio Grande*, a vessel which brought seventy cases of typhus, had true typhoid fever, and several of the steerage passengers had the same disease. There was no mistake in the diagnosis in any case where the disease was fatal, as proved by the autopsy; and in the successful cases, the difference of the eruption, diarrhea, and meteorism, the peculiar nervous symptoms, the great emaciation, bed sores which were so rare in the worst cases of typhus, that I saw but two, made the diagnosis simple to every clever student. The effect of full stimulant treatment made the difference still more obvious. In short we have here in Baltimore *no doubt*, but the fullest conviction of the non-identity of the two diseases.

“Furthermore, there is the undoubted contagiousness of typhus. Two of the Sisters of Charity at the infirmary—one of whom died—and three out of five resident students took the disease. Four of the hospital assistants, and several of the inmates of the almshouse were

attacked; many cases occurred also in the city, where direct intercourse could be detected and proved.

“Here is another interesting order of facts: a German had *typhoid fever* and was eight days in bed under Dr. Buckler, he recovered, and was acting as hospital assistant; in tending the sick immigrants he was seized with *typhus*. Two years ago, Dr. Berryman had, at the almshouse a severe attack of *typhoid fever*. He was appointed resident physician at the new quarantine hospital, where all cases are now sent. He took the fever and died last week—the most promising young man I have ever known, and whose loss has filled us all with grief. Again, one of the immigrants who came near dying in May last with *typhus*, is at this very moment at the point of death with *typhoid fever*.

“There is as much difference in my mind between the two diseases as there is between measles and scarlatina. Huxham has beautifully drawn the distinction between the slow, nervous, and malignant fevers. Excepting the new lights we have in pathology, we can add but little to what he has said. Corrigan, in Dublin, sees the difference between what he calls *enteric* and *typhus fevers*. Dr. Wood, in his late work, appears to me to have handled this subject better than any other of our systematic writers. I perfectly agree with him in his conclusions. It appears to me that we are better placed than either the French or English to study this question without prejudice, and more likely to arrive at the truth.” Drs. Gerhard and Wood, of Philadelphia, are equally confident of the correctness of this view of the subject.

If this subject could be settled by the authority of a very considerable number of highly eminent men, it might be now considered as put at rest. But whilst expressing my unfeigned and very high respect for, and confidence in these gentlemen, I am not yet prepared to consider the matter as placed beyond controversy. They prove con-

clusively that according to their observations, a certain train of symptoms has almost always, (always if you please,) been followed by ulceration of Peyers' plates—that after another train of symptoms, these plates have never been found ulcerated. Hence, they conclude that these two trains of symptoms denote two diseases specifically different. They may be right, but are they necessarily so? According to my observation, and that of physicians immediately in this vicinity, the rose spot does not appear as a symptom of typhoid fever. Am I to set this against the observation of the profession, and conclude that this eruption is not characteristic of the fever? Assuredly not. But the symptoms of typhoid and typhus fever do not differ more than those which attend different epidemics of bilious fever. For example, we may have in one summer, an eruption of red pimples or blotches, great nausea and vomiting, and bilious diarrhea to attend it. Perhaps the next summer it will be without either, and obstinate costiveness be present. Yet we hold the two years to have produced the same disease, very much modified, it is true, in its appearance. Again, is there more difference between the symptoms of typhus and typhoid fevers, than between those of the ordinary intermittent, and aggravated forms of bilious fever of the remittent or congestive type? Yet we consider them essentially the same diseases.

Dr. Power informs us that the vessel Rio Grande brought seventy cases of *typhus*, and that four of the seamen and several steerage passengers had *typhoid* fever. Professor Drake found among the immigrants at Gross Island, patients with typhus and typhoid fever: i. e. those with rose spots and those with petechiæ—a rather equivocal evidences of the non-identity of the two diseases; yet certainly not proving their identity. But we find others as well situated to observe, and as well qualified to judge, view the matter in a light very different.

Thus M. H. Landouzy gives in the *Archives Generales de Medecine* for January and February, 1842, an account of an epidemic fever which prevailed at Rheims in 1839 and 1840. If it were possible to identify a disease by symptoms, it would seem that this was unequivocally one of typhus fever. A copious extract of an account of this epidemic, which is too long to quote, is to be found in Bartlett's work on typhoid and typhus fevers, p. 302 *et seq*: "In the six autopsies which were made, the intestinal lesions characteristic of typhoid fever were present. The elliptical plates were either thickened and ulcerated, or they were the seats of ulcerations, and the mesenteric glands corresponding to them were enlarged." In view of this state of things—the symptoms of typhus and lesions of typhoid—Professor Bartlett asks: "Is it possible, that even admitting the two diseases to be essentially dissimilar, under certain circumstances, the causes of both may be so commingled as to give rise to a mixed disease, in which there is a mixture of the elements of both?" *loc cit*. Professor Wood gives into this idea of the occasional amalgamation of the two diseases. Thus, vol. 1, p. 346 of his *Practice*, he says: "The peculiar disease of the glands of Peyer is never found in typhus, or so seldom as to lead to the suspicion of some intermixture of the diseases, when it does occur." Again—"Nevertheless there are cases which cannot be clearly distinguished; and, as before suggested, it is highly probable that the two diseases now and then exist conjointly together" *Id*.

"Gerhard acknowledges to have met with six cases of true typhus in which the intestinal lesion resembled dothinenterite, and admits that the follicular ulceration occurs in the British epidemic, which he regards as true typhus, but says that it is merely accidental—a complication, not in the ordinary course of the disease." *Dickson's Practice*, v. 1, p. 412. With regard to the amalga-

tion of specific diseases thus suggested by Profs. Wood and Bartlett, it would certainly ill become me to deny the possibility; but inasmuch as the explanation seems to me gratuitous, and so far as I know unsupported by analogy, but rather contradicted by it, I think it ought to be entertained with caution and hesitation. Under such admissions by Bartlett, Wood, and Gerhard, I do not know that it would be too much to say, in the words of *Gualtier de Claubry*, that "there are no means of distinguishing typhus from typhoid fever, in relation either to lesions or the symptoms of the two diseases." Again: "The identity of the two diseases is henceforth put beyond a doubt." *Bartlett*, p. 302.

Of myself, I ought here to say that I know nothing of typhus fever if it differs from typhoid, as I have never seen a case; and all I have said is based upon the writings of others.

ARTICLE 4.

NATURE.

SEC. 1. *Rose Spots.*—What is the nature of this affection? Is it an idiopathic, contagious, eruptive, self-limited fever? Or is it a variety of typhus fever? Or is it an element which may enter and assist in making up various diseases? The weight of authority seems at present to be, that it is an eruptive, essential, self-limited fever, whose presence is determined, at least in fatal cases, by the state of the elliptical patches of the lower portion of the ileum. One of the most common and characteristic symptoms being a rose colored eruption on the skin, showing itself during the second week of the disease. It is true, it is not asserted that this eruption shows itself in every case. Louis detected it in forty-nine of fifty-four cases,

or seven in eight. Bartlett says that it is present in nine-tenths of the cases. On the contrary, 'of seventy cases referred to by Chomel and Genest, they were absent in sixteen, or about one-fourth'—Wood, v. 1. p. 320. That this is true of the disease as observed by these gentlemen, I am perfectly satisfied; but I am as fully satisfied that such is not true of it as it has appeared in this neighborhood for the last six years. I am assured of this, because I have been much interested in investigating the disease. As before stated, I have examined patients daily during the whole course of disease without finding a single spot: I will add, too, that I have not confined my examinations to a few patients or to a short period. It is my custom to examine all whites. I have also inquired of many of my medical friends, and Dr. Evans, as before noted, is the only one who has seen the eruption, unless Dr. Gano may be an exception. The result of his recollection is given in the former part of this essay.

These facts lead me to doubt whether this eruption is peculiar to this disease—an essential symptom. It may be alleged that fevers purely eruptive, sometimes run their course without their characteristic eruptions making their appearance. This may be true. But is it true that any eruptive fever ever prevailed, in which one-fourth or even one-tenth of all those affected failed to exhibit the eruption? Or is there any instance in which an eruptive fever prevailed for six years in any one location, without the eruption being observed, though diligently sought for? One of the cases, the dissections of which are detailed in this essay, was a white man, who had been subjected to daily inspection by myself during my attendance, which commenced on the fourth day. The eruption was certainly absent in this case; but the intestinal lesion was present. The one then may appear without being preceded by the other. The time too, at which the eruption ought to have appeared had passed before death. Again,

sudamina, which are represented as appearing later than rose spots, did appear. The other cases were negroes, from which nothing can be inferred, as I am not aware that the eruption has ever been detected in one of that race.

The space of time during which this eruption makes its first appearance is rather too long for a specific eruption—that is, if we are to reason on this disease from analogy. This period is stated by Louis (on Fever, v. 2, p. 198, Bowditch's editin) to be from the sixth to the thirty-fifth day [thirty-third, B.] according to my computation it should have been the twenty-fourth day. See v. 1, p. 93. Without laying any undue stress upon this, as the observations upon this point, at least so far as I am acquainted with them, are not sufficiently numerous and precise to be of much value, I would remark, that I do not know of any exanthem in which so much latitude in the period of eruption is allowed, there being nothing to interfere with its regular development. By the by, is there an oversight or misprint in the following sentence? 'But there is good ground, I think, for believing that those bounds [of the range of typhoid fever] are wider than those which circumscribe the prevalence of any other strictly idiopathic non-eruptive fever.' Bartlett, p. 85. I certainly have been under the impression that Prof. B. considered this disease an exanthem.

But as the eruptions are considered as of much importance in distinguishing typhoid from typhus fever, they ought themselves to be distinguishable. Let us examine a lot of cases investigated by Dr. Shattuck, with particular reference to this subject. Of six cases given by him, the 3d, 5th, and 6th exhibited both eruptions. *Bartlett*, p. 294. We will also hear Dr. Stewart upon the eruption of typhus fever. Prof. Bartlett tells us, *op. cit.* p. 210, "Dr. Stewart, amongst others, has within a few years studied with great care and particularity the char-

acteristic appearances of this eruption. He says that the rash is permanent; that is, that it does not consist of a successive eruption of spots; that in all cases it presents the two periods, longer or shorter, of increase and decline; and that in the more severe cases it may exhibit, during the period of increase, four different states, being florid, dark, livid, and petechial. When the hue of the eruption is florid, it disappears readily under the finger: when dark, it still disappears, but more slowly: when livid, semi-petechial or pseudo petechial, as it has been called, it is only partially effaced: and when petechial it is not at all affected by pressure. In many cases it remains florid throughout; in others it presents one or more, and in not a few all these alterations: and after it has reached its height, the process is inverted, and it passes through the various phases of lividity, darkness, redness, and paleness before evanescence. This change from rose spot to petechia was also observed by Prof. Drake, at Gross Island. *West. Journ. Med. and Surg.*, Oct. 1847. *Bost. Med. and Surg. Journ.*, v. 37, No. 8. Also by Dr. Upham, at Deer Island Hospital. *Bost. Med. and Surg. Journ.*, v. 37, Nos. 25 and 26, and early Nos of v. 38.

Respecting this eruption, there is another point not altogether unworthy of consideration. Prof. Bartlett refers, p. 108, to several cases in which this rose colored eruption appeared during a relapse after an attack of this fever* This, it seems to me, is proving too much. I do not know that the eruption peculiar to small pox, measles, or any other exanthem has been observed to reappear after having disappeared in the regular course of disease. If my notion on this point is correct, reasoning by analogy, we should not expect the eruption of typhoid fever to reappear, considering it an eruptive disease. If, then, the eruption in the second instance is accidental—

* A similar case is noticed in this Essay.

not proper to the disease, the same eruption appearing in the first instance, may be accidental—not essential to the disease, but dependent on intestinal irritation.

Here I feel disposed to refer to a case of scarlet fever which occurred to me in December, 1838, as being somewhat analogous to the account given above from Stewart.

“Helen Johnson, aged 2 years, has had no opportunity of contracting scarlet fever, except that her mother has visited a family affected with it—was taken on the 17th December, with an eruption in distinct, elevated acuminate points, not colored; tongue whitish with red papillæ; heat moderate, and pulse as is common in ordinary mild fever. 19th, much the same, except that there has been considerable nausea and some vomiting; tongue cleaning off at the tip and edges, rather smooth, but neither red nor dry. 21st. Has been quite lively since last report; ate heartily yesterday. At present feet very much swelled; eruption on feet and legs distinct, red, from one to three lines in diameter; also a considerable patch on the thigh; tongue clean, smooth, papillæ distinct but not red, moist and nearly natural in color; considerable hoarseness and soreness of flesh. 22d. Feet less swelled, eruption on feet, legs, and thigh purplish and fading, tongue as yesterday, child lively. 28th. The red blotches are still apparent on various parts of the body; appetite good, tongue assuming the natural appearance.” I think it not a little singular that the mother of this child sickened on the 20th of same month, had the same elevated acuminate colorless eruption upon the hands and arms; the same red spots upon the body; had the skin exfoliating on the 28th, that of the hands coming off in patches of two or three inches in diameter. I will add that this lady died in 1841, of perforation of the bowel, occurring in typhoid fever.”

After considering maturely the above extracts from

Stewart; after noticing the observations of Drake, at Gross Island, and Upham, at Deer Island; after having seen a case apparently parallel in scarlet fever, is it unfair to doubt the distinction between the rose spot and petechia? If the same identical spot is a rose spot one day, a petechia the second, and a rose spot again on the third, it does seem to me that distinguishing them apart is alike impossible and useless. Hence we must not be surprised—nay, we may expect that the rose spot and petechia shall eventually turn out to be the same eruption under different modifications.

SEC. 2. *Sudamina.*—Louis found sudamina present in about two-thirds of his cases. This eruption is said to be found more frequently in this than in any other acute disease. It has been found in a large proportion of cases in this vicinity. Here, then, is a second cutaneous eruption, more or less characteristic of typhoid fever. Indeed Dr. Hale, of Boston, who had good opportunity of studying the disease, enumerates both the rose spot and sudamina as among ‘the distinctive marks of typhoid fever.’ *Am. Jour. Med. Sci.*, v. 25, p. 396. I do not know of any other exanthem being allowed more than one cutaneous eruption. Is typhoid fever a disease which bids defiance to analogy?

SEC. 3. *Peyer's Patches.* We come now to the intestinal affection—the dothineritis, which I think those who place this fever among the exanthemata ought to consider the characteristic eruption. It is held to be characteristic of the disease—essential to it—that it is found in no other acute disease, if in any at all. That this affection of the intestinal mucous membrane is to be found in this region, dissections have sufficiently shown. It has been found, too, in cases which exhibited a fair proportion of symptoms marking typhoid fever. But whether that condition is the characteristic mark of a specific disease, let us now inquire.

We find that Dr. Lombard, of Geneva, who appears to have been familiar with typhoid fever, both as to its symptoms and pathology, for six years in Germany, upon visiting Great Britain saw cases which he declared could not fail to exhibit ulcerations which he considered essential to that disease. Upon examination of the bodies, however, he was astonished to find no lesions such as he expected.—*Amer. Jour. Med. Sci.*, v. 26, p. 400. *Bartlett*, 257. Dr. Shattuck, of Boston, after studying typhoid fever in Paris under Louis, at his request, examined cases of fever in England, with a view of determining the identity or non-identity of the fever of the two countries. He concludes that typhoid and typhus fevers are distinct, though both prevailing at the same time. Yet he gives us a case of what he considers typhoid fever, which appears indeed to have been as well marked as most cases of the disease; but “there was no appreciable alteration of the elliptical plates or of the mesenteric glands.—*Bartlett*, 294. Fouquier reports a case in which the symptomatology of typhoid fever seems to have been pretty clearly marked, and in which the elliptical plates and mesenteric glands were found almost free from disease.—*Id.*, 116. Prosper Dor reports a case, of which Professor Bartlett says: “Certainly in this case the diagnosis during life would have been sufficiently clear and positive.” Yet, “examination after death showed the intestines healthy.”—*Id.*, 117.

Having briefly referred to some cases in which the symptoms would have seemed to point out ulcerations, or at least serious disease of the elliptical plates which nevertheless failed to exhibit that lesion upon examination, I will now turn to the converse proposition. Here it will not be amiss to make an extract from Professor Bartlett's work. “In all cases of typhoid fever there is lesion of the small intestines. This lesion is peculiar. It is found in no other disease,” p. 58. Of this “invariable and char-

acteristic lesion," I cannot give a better or perhaps a more succinct description than is to be found in the work referred to. "In a small proportion of cases, consisting of those which terminate early, the elliptical plates together with the subcellular muscular tissue are merely increased in thickness, with redness and softening. This increase of thickness is such that the edges of the plates project from one to two or three lines above the surrounding mucous membrane. Sometimes the hypertrophy of the plates and of the subjacent cellular tissue is quite simple, the color and consistence of the membrane remaining unaltered. This simplest form of the lesion, like all others, which are more complete, is universally found most advanced and most strongly marked at the lower extremity of the ileum. Each successive plate as we go upward along the intestinal track from the ileo-cecal valve, is less profoundly altered, till we arrive at those in the natural condition. The number of plates thus changed is very various. [From one or two to thirty or forty.] The surface of the thickened plates frequently presents a granular or finely mameloned appearance occasioned by an enlargement of the gray orifices of the cryptæ which go to make up the plates. This condition becomes very manifest when the gland is detached from its subjacent tissue and held between the eye and the light. At other times the surface of the thickened membrane corresponding to the plates is quite smooth and level.

"In a great majority of cases, the plates, instead of being merely thickened with or without redness and softening, are more or less extensively the seat of ulcerations. These ulcerations vary very much in size and number. It frequently happens, for instance, that in proceeding from above downwards, in our examination, after having passed over several plates simply thickened, we come to one of them in which there is a single circumscribed ulceration with perpendicular edges, extending more or less

deeply into the thickened tissues. As we go on towards the termination of the intestine, the ulcerations become more and more numerous and extensive, till at last for several inches next the valve the plates are entirely destroyed, and we find only ulcerations corresponding to their sizes and shapes occupying their places.

“These intestinal ulcerations are commonly more or less rounded or oval in their shape. Sometimes, however, their borders are irregularly jagged and angular. So their edges are in most instances pretty regularly perpendicular and smooth, but sometimes they are ragged and shreddy. The bottoms of the ulcerations vary of course with their depths. They consist sometimes of the cellular tissue immediately under the mucous membrane; sometimes of the muscular coat; and sometimes of the peritoneal covering. Occasionally this covering itself gives way, perforation takes place, and the contents of the intestine are discharged into the cavity of the peritoneum.”

Keeping this description in mind—which indeed I think very excellent, (if we supply a small omission, viz.: that the membrane between these thickened or ulcerated plates, as the case may be, is frequently more or less highly injected, and traversed by enlarged veins filled with dark blood,) let us see whether this state of things exists in no other disease.

Broussais' *Chronic Phlegmasiae*, vol. 2, p. 106, gives a case of intermittent fever changed into continued fever; death on the sixty-ninth day; in which among other appearances observed upon dissection, we have: “The mucous membrane of the small intestines in its upper part presented some isolated red points; lower down near the end of the ileum it was of a deep red, granular, black, and generally sphacelated and ulcerated. An analogous disposition throughout the whole length of the colon. All the granulations were so many small ulcers with loss

of substance of the membrane; the appendages of the intestine studded with small black glands."

It may be objected that this, and some other examples cited in this essay are not the ulcerations marking typhoid fever—that these last consist of inflammation and ulcerations of the solitary and Peyer's glands—that such is the legitimate inference is true—that such is more than intimated by Professor Bartlett is likewise true. He says after Chomel: "That one of the most constant and uniform characteristics of secondary lesions, consisting generally of specific inflammations, is the fact of their being *disseminated*; of their occupying numerous and circumscribed spots in the tissues and organs of the system," p. 142. Again: "Now in every respect, the intestinal lesion of typhoid fever corresponds to this class of pathological alterations. It is disseminated; occupying the same glandular tissue at different points of the intestinal mucous surface," &c., p. 144.

It is true he does not assert that the ulcerations are confined to the glandular structure and the mucous membrane covering it; but such is clearly the impression conveyed by the language. If this interpretation is the correct one, the objection above supposed is valid. But that such is not always the fact I have evidence to me conclusive. In Sylla, the autopsy of whom is given in this essay, many of Peyer's patches and the solitary glands were ulcerated; and for aught I know, the ulcerations may have been confined to the bounds of the glands; but at the lower end of the ileum there were several very irregular ulcerations, one of which was two inches long, by one and three quarters wide; a tongue of membrane not ulcerated, running up the broad end of the ulcer about half an inch wide and three quarters long. In the cecum and colon were similar irregular ulcerations. I hold that these ulcerations were not situated in Peyer's plates at all, because the form and proportions were not such as

to admit that interpretation. Or if they were so situated, the contiguous membrane must have been involved. I had the pleasure of showing the casts of some of these ulcerated portions of intestine to Prof. Bartlett, who recognised them as examples of the lesions of typhoid fever.

In *Horner's Path. Anat.*, p. 307: "In a patient dead of phthisis pulmonalis, it is said the jejunum and ileum abounding in large ulcers of the mucus coat, which went around the circuit of the gut and were twelve or eighteen lines wide. * * * The beginning of the colon, on internal face, covered for some five or six inches by ulcerations, also the adjoining part of the ileum." Again, of a patient dead of tubercular consumption, supervening upon epilepsy it is said: "The glands of the mesentery were enlarged. * * * Numerous patches of red inflammation, looking like the precursors of ulcers existed in the mucous coat of the intestines. There were several ulcers from two to five lines in diameter, in the small intestines, and a few in the large," p. 370.

In *Wistar's Anatomy*, by Pancoast, these glands are represented as very frequently the seat of lesion in phthisis as well as in typhoid fever; no attempt to discriminate between them, being made.

In connection with these alterations as observed in phthisis, I will introduce an account of a case which I saw last spring, (1847,) which I consider of some value. Matthew, aged twenty-two, until a year ago remarkably stout and healthy. Then became affected with severe cold in consequence of exposure. He continued more readily influenced by fatigue than common, yet not to such a degree as to attract marked attention. About Christmas, he was seized with hemorrhage from the lungs, he coughed much, and was disabled from work. He, however, improved afterwards, and thought himself able to break hemp. He was soon obliged to desist on account of recurrence of hemorrhage. March 5.—I saw

him rather accidentally; at which time his pulse was ninety; frequent hacking cough, but no blood expectorated; skin ashy and dry; tongue furred white; muscular weakness; respiration frequent and easily hurried; considerable emaciation. He took about this time, some doses of calomel, opium, and ipecac; and subsequently some small doses of ipecac and tar water. He seemed to improve for a time, and about the first of April drove an ox-cart to town, a distance of five miles, without much fatigue. He then appeared better, but his pulse remained frequent. On the 13th of May I was desired to see him, as he was thought to have typhoid fever, and his master thought that, possibly if he could survive, the attack might effect an improvement in his condition. I found him covered with a profuse perspiration, tongue furred white; cough as before, but discharging considerable quantities of pus; respiration very quick, considerable dullness on the right side of chest, left tolerably clear; no diarrhea, but some tympanites; pulse, sitting, one hundred and thirty-five; lying, one hundred and twenty; slightly delirious. I gave him small doses of blue mass and Dover's powder, directed attention to bowels and general comfort; and informed his master that I saw nothing but the progress of phthisis, that—I thought the case hopeless. I did not see him again. June 2.—His master informed me that he had died that morning, and as I had expressed a wish to examine his body, I could do so. He also told me that Matthew had continued to grow weaker from the time I saw him. His pulse smaller; his mind more unsteady; until a few days before death he was compelled to lie in bed altogether—having considerable trembling of the hands—pulse too frequent and weak to be counted in his tremulous condition. He had continued to cough, but about a week before death ceased to spit pus—had complained of no pain or tenderness in abdomen—had continued costive, for which a

laxative had been administered every alternate day until the last four days of his life, during which he had no stool.

Autopsy seven hours after death.—Emaciation very considerable but not extreme. Abdomen not distended. *Thorax.*—Heart natural; left lung generally healthy, but a few tubercular masses interspersed through its substance; right lung a complete mass of tubercular aggregations, with the intervening parenchymatous tissue condensed and reddened; the whole lung attached to the pleura-costalis by adhesions apparently not of very long standing. *Abdomen.*—Stomach apparently healthy externally, not opened; duodenum of good appearance—upper part of jejunum of same description; the lower portion and ileum dark and contracted in diameter, except in small portions here and there, which were of healthy color and dimensions. Along this range at distances of from six inches to a foot, were patches distinctly thickened, as observed by feeling on the outside; upon opening the bowel, they were found exalted in color, projecting about a line above the surrounding surface with minute ulcerations on the surface. These patches were fifteen to eighteen lines long, by eight or ten wide. Many solitary glands were ulcerated. In the last two feet of the ileum were only two of these patches; above that, they were frequent. The appendicula vermiformis was very dark, which color was communicated to that portion of the peritoneum with which it was in contact. There was also a small collection of pus at this point. *Colon* much distended except for two or three inches near the commencement of the descending portion, where it was of less calibre than natural. Upon laying open this portion there was considerable thickening of the mucous coat with slight discoloration, also an ulceration of a line in diameter. Here was a minute particle of well elaborated

feces, such as are frequently found in the watery stools of typhoid fever, about the time amendment commences; it was perhaps a fourth of an inch long by a sixteenth. Otherwise the bowels were more completely empty than I ever saw them, or indeed imagined it possible they could become. It was only in portions that the mucous membrane was even tinged with apparently healthy bile. In various other portions of the colon there were spots of discoloration and evident thickening. *Liver*.—On convex surface healthy, on concave rather dark, but apparently healthy in structure. Gall-bladder filled with bile. *Pancreas and kidneys* healthy. *Spleen* nearly globular, dark claret color, with numerous tubercular masses on surface; upon being laid open, it was very thickly studded with tubercular masses, globular, of the size of a small rifle bullet. *Mesenteric glands* slightly if at all enlarged; the largest of the size of a small filbert; it was not colored, and being cut into presented several minute points of tubercular matter. Behind the root of the mesentery were several masses of tubercular deposit. To put this matter in as clear a light, in all its bearings, as possible, I add that when I first saw this boy in March, he was in the room with his brother laboring under typhoid fever.

Was this a case of unmixed phthisis or of typhoid fever supervening on phthisis? Are there any cases on record in which typhoid fever came on in the last stage of phthisis?

Recently, November, 1847, I saw a case of fever in a patient who was thought to have been afflicted with consumption for some time. I could not detect any pectoriloquism, but some dullness of chest. Although very anxious to make an examination after death, I was not allowed the privilege.

For the purpose of acquiring the most satisfactory in-

formation upon the condition of Peyer's plates in typhoid fever, as compared with small pox, measles, &c., I requested information of Dr. Holmes, Professor of Anatomy, and Dr. J. B. S. Jackson, Professor of Pathological Anatomy, Boston. I applied to these gentlemen because I believed that this subject has been more thoroughly investigated in New England than in any other part of the United States. Professor Holmes says: "I am not aware that ulceration of Peyer's patches are met with in measles or small pox. The mark of ulceration in phthisis consists in the presence of tubercle; but if none of this substance be present there may be a great deal of doubt—as in a case which I saw some months since in South Boston." Professor Jackson informs me that he has often seen Peyer's patches red in measles, scarlatina, pneumonia, and croup, but never ulcerated. He has never examined them in small pox, and is not aware that they have been found ulcerated in that disease. These remarks apply to observations made at periods when in cases of typhoid fever, ulceration would have been expected to be present. In phthisis he does not think he has seen ulceration of the patches without more or less tubercular deposit about them, though such ulcerations are, he believes, generally found in the large intestines.

I not long since held a conversation with a distinguished gentleman; during which he remarked, that an expert pathological anatomist would readily detect the difference between the ulcerations in phthisis and those of typhoid fever; but he did not feel himself competent to do so with certainty. He mentioned the state of the spleen and mesenteric glands, as being sufficient to determine the point. My reflection at the time was—if you cannot determine the point, I guess its determination must be a matter of conjecture rather than of demonstration; and involuntarily thought of Professor Potter and the mea-

sles. Let it be remembered that we are considering this lesion as to its peculiarity in typhoid fever—as being of itself sufficient to demonstrate the existence of that disease, not as it is interpreted by previous history of the case or concomitant lesions of other organs.

Professor Bartlett *op. cit.* p. 119 says: “There is no good reason to think that positive ulceration of the intestinal follicles usually takes place in mild cases, and perhaps not in many of moderate severity.” “It is certain that numbers of patches are frequently found without ulceration—that there is a time in every case when none are ulcerated. Sudden congestion or other complication might supervene at this time and cause death.” In what would the patches in these causes differ from their appearance in measles, scarlatina, or croup. Again, “There is another peculiar appearance of the diseased plates, which is found in a certain proportion of cases; according to Louis, in somewhat less than one-third. This seems to consist in a morbid change or transformation of the subcutaneous cellular tissue. Instead of being simply hypertrophied, with or without redness or softening, as in the cases already described, this tissue is converted into a substance of a yellowish color, destitute of any traces of organization, presenting a substance somewhat glossy when cut, and about as hard and friable as crude tubercle.” How are these cases, which according to Louis amount to nearly one-third of the whole number, to be discriminated from those of phthisis, if we look to these plates alone for the distinguishing features? It does seem to me, that if the description above given, is not one of tubercular matter, it is one which it is very difficult to discriminate by words from it.

There are two points concerning this lesion which it may be proper to mention, more as a means of keeping

the course of the disease before the mind, than in any way elucidating its pathology.

1st. That the disease may terminate fatally, notwithstanding some considerable progress may have been made towards restoring the healthy condition of these patches. Thus, we see in *Louis*, v. 2, p. 166 in a patient dying upon the twenty-first day, some progress in restoration had taken place. This had been a case of considerable severity. Again, at p. 62 we have another autopsy of a patient dying on the twenty-ninth day evincing the same state of progressive improvement, as evenced by a grey, bluish tint in the parts ulcerated, and the mucous membrane generally. Again, v. 1, p. 122, we have a considerable progress towards healing in a patient dying on the forty-third day. One remark in passing: about the twentieth day, according to our present information, seems to be the earliest period at which the process of restoration commences. Here we have death occurring at that period notwithstanding the appearance of healthy action was visible. I do not think that it is common in eruptive fevers, for the patient to die after the eruption, having progressed regularly, has begun to decline at the shortest period. I have seen cases of typhoid fever, it is true, in which congestion of the lungs or other secondary symptoms supervene suddenly and carried off the patient, he seeming to die, not of the fever but of congestion. But such does not seem to have been the fact in the cases referred to.

2d. There seems to be very great latitude as to the time this cicatrization commences. We have seen that it may have made some progress on the twenty-first day. On the other hand we have a case, *op. cit.* v. 1, p. 130, of an apparently decided convalescence, setting in on the twenty-first day, continuing for eighteen days; a relapse

and death on the sixty-fifth day, in which no progress towards restoration in these patches had been made. It would thus seem that there is no certain relation between the period of disease and this lesion; nor between the healing of this lesion, and the life or death of the patient. It may however be said that improvement may have commenced in these patches at the time convalescence appeared to begin. To this there are two objections: 1. In one of the cases quoted, healing had commenced although the case was going on to a fatal termination. 2d. In relapses in eruptive diseases, the eruption does not reappear.

Describing the pathological appearances in patients dead of infantile remittent fever, Mackintosh says: "The ulcerations in the ileum and colon, strictly resemble those which I have afterwards to describe in the bowel complaints of children, except that the whole mucous surface of the colon is occasionally involved in one sheet of ulceration, with a rough and ragged surface and hypertrophy of the other coats, as observed in many cases of phthisis pulmonalis," vol. 1, p. 179. Again, treating of the inflammation of the stomach and bowels he says: "On some occasions we shall see numerous dark-colored distinct points, somewhat elevated with a depression in the centre, which are mucous follicles enlarged; in some places a number of these points will be seen to coalesce, sometimes into a circular space, but in general they are more of an oblong shape. The surface is elevated and sometimes spongy; and upon making a section through this part, it will in general be found that the submucous tissue is principally involved in the disease, and occasionally the muscular tissue also. On looking at the surface through a glass, ulcerations will be discovered. This appearance is most commonly observed in the lower part of the ileum and caput cecum, in children who have died of

bowel complaint. Occasionally numerous distinct points will be observed, as if a penful of red ink had been spattered on the surface of the mucous membrane. * * * On other occasions ulcerations are observed of a circular or oval form, with defined edges, attended by loss of substance not only of the mucous membrane and the submucous tissue, but extending into the muscular coat which may be seen in different places in a ragged state. * * *

* * * Occasionally indeed, the ulceration extends through all the tissues allowing the escape of the contents of the bowels into the abdomen. * * * Ulcerations are sometimes circular sometimes oval; sometimes they run in lines, and on other occasions are found to be irregular in shape. In size they vary from that of a millet seed, to be so extensive as to occupy a large space. Sometimes the whole intestine. * * * Ulcerations of the small intestines are for the most part, found in that portion of the tube most distant from the mesentery," p. 337, *et seq.* Again, speaking of *Tabes Mesenterica* he says: "At other times the lower part of the ileum and cecum are affected; and occasionally ulcerations of the jejunum, increasing in number however in the course of the ileum," p. 353.

In the forty-fifth volume of the Edinburgh Medical and Surgical Journal are some observations on continued fever as it occurs in the Glasgow hospitals, by Dr. Robert Perry, in which he considers the intestinal lesion as an accidental complication of typhus fever, and not less frequently of small pox; and says that in the latter disease, the morbid appearances in the intestine are the same as those which occur in dothineritis itself, which disease, he says, may exist as an affection *per se*, characterised by its peculiar symptoms."—*Bartlett*, 296. It is true that Professor B. questions this testimony; but from what I have seen I am by no means certain of its

want of truth *e. g.*—in 1845 I had a patient who had been complaining for a week with great muscular debility, occasional chills, frequent, weak pulse, tongue whitish with red papillæ, buzzing in the ears; distended tender abdomen, considerable diarrhea, dejections of dirty yellowish color and cadaverous odor, which in fact for two days I considered a pretty fair case of typhoid fever; but luckily, on the third, the eruption of measles undeceived me. If this man had died, I think it quite probable that the lesions of typhoid fever would have been found; if not ulcerations, that equivocal thickening which could very well have been interpreted to be the genuine affection.

Treating of *painter's colic* Mackintosh says: "The following is an abstract of the appearances found on dissection, in the bodies of a number of individuals who died of this affection in the hospital of Beaujon under the care of M. Renaudin: redness and ulceration of the mucous coat of membrane of the alimentary canal, and often an enlargement of the mesenteric gland corresponding to the inflamed and ulcerated portions of the membrane. The redness varied from that of bright rose even to violet or brown. It was disposed in points, in patches, in streaks, and sometimes occupied an extent of several feet. The thickness was variable. The ulcerations were found almost always towards the termination of the small intestines, near the valve of the colon, which was sometimes destroyed; and in cases where diarrhea prevailed, ulcerations were found in the colon; and sometimes they were observed in the stomach. They were deep and numerous, and sometimes the stomach and intestines were perforated." "Roche and Sanson inform us that M. Renaudin had two hundred and seventy-five cases in the years 1821, '22, and '23."—*Mackintosh's Prac.*, v. 1, p. 291.

"In teething children the glands are affected in precisely the same manner as in typhoid fever. Dr. Hale has

seen six cases in his practice, of children who have died during teething in whom the glands were thus affected."—*Am. Journ. Med. Scien.*, v. 25, p. 399. It will be noted, that Dr. Hale is one of those who has contributed most to our knowledge of typhoid fever, and as such, his observations are entitled to much weight.

"Dr. Marizini has written to the Academy of Sciences of France, that he has found the alterations of the intestinal follicles characteristic of typhoid fever, in the body of a seven months child, who died twenty or thirty minutes after birth. Many physicians witnessed the autopsy, and can testify, he adds, to the truth of the statement.—*Amer. Jour. Med. Scien.*, n. s., v. 4, p. 173.

As this disease is to me a subject of great interest, I hope I shall be excused for introducing here, a few notes of cases, which may at first sight seem irrelevant, which however I think not altogether without analogy to our present subject. They are from Abercrombie's *Treatise on the Stomach*: *Case ninety-first*, from symptoms and appearances on dissection, was pretty clearly one of typhoid fever. *Cases ninety-third* and *ninety-fourth* were doubtless those of perforation of the bowel occurring in the same disease. *Case eighty-fifth* seems to have been of the same character. At the commencement, after a dose of castor oil, (there being great uneasiness in the abdomen,) he had numerous evacuations consisting mostly of blood. This was on the 8th of October. 9th. Uneasiness of abdomen, chiefly referred to lower portion. Stools still almost entirely of blood. 10. Pulse nearly natural; much pain and tenderness in lower part of abdomen; some dysentery. The evacuations now more abundant in quantity, and remarkably changed in character, being watery, dark colored, and with a remarkable and peculiar fetor." They are compared by Mr. White to the washing of putrid flesh. "After the diarrhea, a regular decline with adynamic symptoms, and died on the 16th." This case

seems to have lasted only ten days. Upon inspection, the whole colon, from its caput to the extremity of the rectum, was greatly and uniformly distended. From the anus to the middle of the arch, the intestine was of a uniform dark color, as if gangrenous. From the middle of the arch to the caput coli, the appearance was more healthy, but was variegated by numerous patches of deep red or livid color. The intestines being laid open, the mucous membrane from anus to middle arch, of deep, uniform dark color, soft, and easily separated; muscular coat in same condition; peritoneal coat healthy. From middle arch to cecum, there were elevated irregular patches of a dark red color, with interspersed portions of more healthy color. Towards the caput coli there was an appearance of erosion or superficial ulceration; and on the inner side of the caput coli were several distinctly defined ulcers. The ileum for a few inches from its junction with the caput coli was slightly distended and its mucous membrane reddened. Other parts of the canal healthy." The author remarks: "It may be of importance to state that the wife of this man was affected with this same disease in a very protracted form, from which she had not entirely recovered at the end of two months. Three sons were also successively attacked, of whom one died." *Case* eighty-sixth fatal on the ninth day after a fair set of symptoms indicating typhoid fever. The mucous membrane was healthy in the stomach and in the upper portion of small intestines. In the ileum there began to appear spots of increased vascularity, which were at first at considerable distances, but afterwards became more numerous; and for about twenty-four inches of the lower end of the ileum, the whole mucous membrane was of a uniform deep red color, without any remarkable change in its structure. In the caput coli the same dark, red state of the membrane continued; and it was here covered by numerous well-defined ulcers, some of them of the

size of a sixpence. In the ascending colon, there was a more irregular state of disease, consisting of wandering undefined ulceration, variegated with dark fungoid elevations of portions of the mucous membrane. In the arch of the colon the disease assumed a different character; for it there consisted of small well defined ulcers, the size of a split pea or smaller; they were quite distinct from each other, and the mucous membrane between them was of a pale color and quite healthy. In the descending colon, the whole of the mucous membrane showed one continued surface of disease—being of a dark-brown color, fungoid and spongy without any defined ulcerations. *Case eighty-ninth*, dysentery, stools copious, varied very much in appearance, being sometimes slimy, sometimes watery, and sometimes consisting of mucus mixed with green matters of various shades. *Autopsy.*—Some superficial ulcerations towards the lower extremity of the colon, but the principal seat of disease appeared in the caput coli, in which were numerous fungous projections ulcerated upon the surface. In the ileum four inches from its lower extremity, there was a portion in a state of recent inflammation, covered with a false membrane. Small abscesses in the liver; mesenteric glands enlarged.

Here we have a lot of cases, some of which, by symptoms and appearances on dissection were pretty certainly cases of what would now be called typhoid fever. Some in which the symptoms would seem to indicate that to have been the disease, but the dissections did not show the peculiar lesions of typhoid fever; but either a corresponding lesion situated in the colon or an analogous one situated in the ileum. The last is considered dysentery by the author, but it seems doubtful if it was not truly one of typhoid fever. At any rate the appearances on dissection were analogous to those having a striking resemblance to typhoid fever.

Whatever others may think of the light in which I have viewed these cases, I am of opinion that a patient and careful examination of them, and of some others of the same author, with an eye to their analogy to typhoid fever, will amply repay the man who makes it.

But it may be urged against many of these cases, that they are not described with sufficient minuteness to enable us to form a proper opinion as to their value. That English writers do not discriminate between typhus and typhoid fevers. That many cases which have been described as infantile remittent fever, and even cholera infantum, were in truth typhoid fever. In one word that things identical have been considered as altogether dissimilar. To prevent, on the one hand confounding things which are really different, and on the other separating those which are alike, is many times a work of great difficulty. Such is the matter now in controversy.

Let us recapitulate this section somewhat. I have declared that the typhoid eruption, the rose spots, though diligently sought for, had not been found in this vicinity. I have exhibited proof, that in some considerable proportion of cases, say from one-tenth to one-fourth, it is admitted to be absent. That in some cases, (whether of typhoid or typhus fever it matters not,) both these and petechiæ appear upon the same patient. That in some cases they are convertible into each other—running from rose spots to petechiæ and *vice versa*. That the lesions of the elliptical plates have not been found where, from the symptoms, we had a right to expect them. That these lesions have nevertheless been found, where we had no right to expect them. That in other cases we have found analogous lesions in the ileum, and corresponding lesions situated in the colon.

It may be argued that the case quoted from Broussais was one of genuine typhoid fever, occurring after one of intermittent fever; or that it was typhoid fever from the

beginning. The history of the case as given does not seem to warrant that conclusion. Still the author may have had his attention so fixed upon some features of the case, as to prevent his seeing others, important to the proper understanding of it.

In the cases from Horner there is evidently no suspicion entertained by the author, that anything of what is usually called fever, affected the patients. Matthew's case, given before, I considered one of pure consumption and there was nothing to change my opinion; and I have the satisfaction of having a confirmation of this opinion in the judgement of Professor Bartlett.

Perhaps it would not be uncharitable to suppose that some of the cases reported as infantile remittent, or even as cholera infantum were in truth those of typhoid fever; as I cannot conceive that it would be difficult to confound them; but I should suppose painter's colic ought not to be so confounded.

Upon a careful examination of the whole ground, shall we conclude that the lesions of Peyer's plates are invariable and characteristic of typhoid fever—that they are to be found in no other disease? Truly I cannot bring myself to do so. Shall we conclude that they do not indicate a distinct form of disease or even a distinct disease? I am not prepared for that either. Shall we say that they are an accidental symptom which may occur in many different diseases, and even exist independent of other symptoms? It behoves us to be cautious in this matter. In our profession we have had a sufficiency of hasty conclusions, drawn from insufficient observations, which have been replaced by other conclusions drawn from facts equally unsatisfactory. I hope we shall leave this matter under investigation, until we shall have accumulated facts sufficient to enable us to come to conclusions, which shall remain permanent.

CHAPTER VII.

ARTICLE 1.

TREATMENT—BLOOD LETTING.

There appears to be a notion amongst many physicians that when we have determined that a given case is one of typhoid fever, it is to be let alone and no attempts made to control it—as in this age of progressive improvement, when we have named our children we suffer them to pursue their own course without restraint. One conclusion is about as sage as the other. By ill-tempered, rash, and inconsiderate conduct we may do immense injury in either case. On the contrary by great care, vigilance, prudence, and firmness, we may do much good.

I wish it was in my power to give plans of practice, better settled than any I have seen yet, as also something which would promise more success than usually attends our best endeavors. Nor have I the consolation to know, that among those who have been long familiar with the disease, there is a greater unanimity as to the best mode of treating the complaint, or a more fortunate result in their treatment, than may be found in this vicinity. I am ready however to give what seems to be the treatment in this section, according to my own personal experience, aided by the observations of my professional brethren, with whom I have made it a point to converse freely whenever opportunity offered. In delineating the course of treatment I shall take up one means after another, and first as to

Blood-letting.—My experience and observation as to this remedy, are both very limited. I have myself bled but one patient in this disease, and that was under a false diagnosis. The pulse indicated that it would *bear* the lancet though it did not *demand* it. The consequences were very unpleasant; continued prostration with repeated syncope gave me much uneasiness. The case however terminated favorably. In another patient of mine, in which there was considerable headache, and some firmness of pulse, bleeding was performed in my absence, without any marked effect save a temporary abatement of the headache. The patient did not seem to be injured by the operation, but the case eventuated unfavorably. In a third, late in the disease when the pulse was over one hundred and thirty in the minute, profuse epistaxis having come on, bleeding to something more than a pint was instituted for the relief of that symptom. No benefit resulted; I saw the patient next day, the hemorrhage was stopped, not however by the bleeding, but death followed at the period of four days from the bleeding. In a fourth during the third week a patient was bled to a small amount say $f\bar{z}iii$ upon some increased fullness of pulse, occasioned probably by the action of quinine. I saw this patient for the first time the day before he was bled, and did not consider him beyond remedy. The day after the bleeding, I saw him again, when it seemed to me he was so. It is certainly true however that he was in a condition at my first visit which did not promise much.

I do not conceive that I have anything to do with the practice in other countries, else it would not be difficult to find apparently strong evidence, that blood-letting is an agent of great value. I would also refer to the amount of blood sometimes lost from the nose or bowels in the latter stages of bad cases of fever, where yet the patient recovers. Although I am not prepared to say in what

the effect of hemorrhage differs from that which follows blood-letting to the same amount, or whether it does differ, I have thought it my duty to allude to it. I will also take occasion to say here, that this consideration has been weighed with much interest, viz.: *Inasmuch as considerable hemorrhage sometimes takes place in advanced stages of very bad cases, and the patients yet recover; is not this an evidence that venesection was called for in the early stage, but that call not appreciated?* Such interpretation will be given readily by one who thinks blood-letting an important agent in the disease. Such may be the proper view. But I would observe that, so far as my observations go, hemorrhage is much more apt to occur in some families than in others. For instance, of forty-three patients seen in the last twelve months, considerable hemorrhage occurred in six cases. Of these, two occurred in one family, they being the only cases in that family; and four in another family in which there were nine cases.

In this second family, there was a patient who had a pulse decidedly fuller than is usually found in this fever, at least in this vicinity; one which would have justified bleeding. It however was not resorted to. During the continuance of this case, I reflected much upon this point. If hemorrhage occur in this case, how much weight is to be given to that circumstance, as indicating the necessity of blood-letting at the commencement? It appeared to me then, and it does yet, that the formation of a proper conclusion would have been attended with much difficulty. That however was one of the cases in which no hemorrhage occurred.

Again one of the patients at Mrs. Lightburn's presented a pulse of much the same character; and I caused him to sit up, intending to bleed him if his pulse retained its fullness in the sitting posture; his pulse however flagged upon rising, and he was not bled. Again, in one of the cases at Mr. Cooper's in 1841, the pulse was fifty per

minute and full, such as would seem, under ordinary circumstances to *demand* bleeding. It however was not performed. Each of these cases had a speedy convalescence.

Topical bleeding is less liable to objection. In many cases where there is much pain in the head or abdomen, abstracting blood by cups may be practised with much advantage.

ARTICLE 2.

EMETICS

May be used with a very reasonable expectation of benefit in the early stage of the disease, when there is nausea or oppression of stomach, when there is a yellowish tinge upon the tongue, or a bitter taste in the mouth. During the progress of the disease an emetic may be administered when there appears to be a considerable redundancy of bile or phlegm, by which the stomach is oppressed. It is however always to be borne in mind that when diarrhea is present to a marked degree, we cannot depend upon an emetic operating well, how desirable soever it may be. In such cases, it is always apt to run off upon the bowels. Even in the advanced stage I have seen an emetic which acted mildly do much good, but it has been when there was not much diarrhea.

On the other hand, an emetic of tartrate of antimony and ipecac, administered on the tenth day of disease, where there had been much watery purging, failed to vomit effectually, but ran off by the bowels, producing great prostration, serous bloody stools, &c. Death followed as a consequence.

When there is much diarrhea therefore, we should not

venture upon the use of emetics without very cogent considerations, and under all circumstances we should watch their effects with great care. Of course it would appear advisable to select an emetic which is not apt to affect the bowels—therefore we prefer ipecac to tartar. I do this even when no diarrhea has appeared for fear it should be excited by the operation.

ARTICLE 3.

CATHARTICS

Are very important agents in the treatment. If an emetic has been administered, it should be followed at the interval of twelve or twenty-four hours by a cathartic. Unless there should be something to forbid the use of mercury, I almost always give calomel or blue-mass in the first purgative. If there is any disposition to diarrhea, I generally combine with ten grains of calomel as much Dover's powder; or six grains of calomel, as much blue-mass, with the Dover's powder, or its equivalent of morphia and ipecac. Some physicians think that in cases where diarrhea is present blue-mass is peculiarly appropriate; that it checks the diarrhea. That this last is many times true there is no doubt. But the same is true of calomel. On the contrary, in many instances there is no marked diarrhea until an emetic or cathartic is given; hence some object to the use of medicine because it is apt to produce this state of things. But the truth is, that if diarrhea has not appeared before, it is very apt to occur about this time; whether medicine is administered or not. We therefore give a cathartic combined as above without much attention to the presence or absence of diarrhea. If there is diarrhea when the first medicine is

administered, and it should not be checked by it, it should be repeated at an interval of twenty-four or forty-eight hours. If it still continues, small doses of blue-mass with morphia and ipecac. say pil. hydrarg. gr. iii, ipecac and opii aa. gr. $\frac{1}{4}$ or an equivalent of morphia in lieu of the opium, to be repeated every four or six hours as necessity may indicate, will be proper. If there should appear a deficiency of bile, or a derangement of its quality, this will be the more proper. In such cases too, an occasional dose of grs. x or xii of blue-mass will be called for during the course of treatment, and that though there may be continual necessity to restrain the bowels. If under this treatment, the dejections are more consistent with an admixture of bile, we will consider ourselves as making a favorable impression upon the disease. At any rate, it is desirable that the bowels be moved decidedly though gently, in the first two or three days of the disease.

If there should have been no diarrhea, or indeed if there should be, and the bowels should not be moved in eighteen hours after the administration of the purgative, it may be well to give a small dose of rhubarb, castor-oil, or epsom salt. Or if there should be reason to think that there are worms in the bowels, some oil of wormseed may be added to the castor-oil, provided we have a good article; if not, Fahnestock's vermifuge may be substituted for the oil, or an infusion of senna and spigelia may be used.

It is to be remembered however, that any of these adjuncts may act more powerfully than is desirable. Indeed three Seidlitz powders taken in the course of the day succeeding that on which a mercurial had been administered, produced a couple of satisfactory stools, and afterwards caused much griping with watery bloody stools, which it took two or three days to rectify. The same state has followed the administration of rhubarb given as an assistant to calomel. We should always

therefore, watch our remedies carefully and be prepared to interfere, when they begin to act unkindly.

Here I would make a few remarks upon the use of calomel in this form of fever, as compared with its use in bilious fever. In this latter disease, if our calomel was followed by serous purging, we increased the dose with confidence to $\mathfrak{D}i \text{ } \mathfrak{z}ss$, $\mathfrak{z}ii$, or in some few cases of unusual obstinacy to $\mathfrak{z}i$. This is the largest dose I ever gave, and that perhaps not a dozen times in a period of thirty years practice. We confidently expected to effect by this course, consistent, bottle-green, bilious stools, and as confidently an amendment of the patient under these discharges. Indeed, in a bad case it was not usual to see amendment until an impression resulting in this kind of purging was made. Under this conviction I have at divers times, when I found my patient evidently better, and no purging had taken place, predicted with confidence, that such purging would ensue in the course of the next twelve or twenty-four hours. Nor do I remember a case in which the prediction was falsified.

Here however, the state of things is different. We cannot give large doses of calomel with the assurance that consistent stools will follow—at least I never tried it except in two cases. In those $\mathfrak{z}i$ of calomel only increased the watery purging which followed smaller doses. Neither have I in any case of typhoid fever, seen calomel in any dose, produce the consistent bottle-green, bilious stools which we consider so favorable in bilious fever. I have seen dark green stools, but they have been mixed to a considerable extent with mucous. The green too is of a shade materially different, they also have a shining glossy appearance, altogether different from those before mentioned. Neither does amendment have any connection with the appearance of stools of this kind, on the contrary patients may, and frequently do get worse during their continuance.

In a certain proportion of cases, a suspended secretion of the liver attends this fever, which accompanied by a state of irritation in the mucous membrane of the bowels, causes a discharge of considerable quantities of whitish mucous. Here small doses of calomel or blue-mass with opium and ipecac are again called for.

Although a vitiated or suspended secretion of bile is present in a considerable proportion of cases, it is by no means necessary to the existence of the disease. On the contrary, in many cases though there may be considerable diarrhea yet the admixture of bile appears to be in fair quantity. The fault being in the excess of watery particles, not in a deficiency of bile. The excretion is excessively fetid to be sure, but that fetor is acquired below the duodenum. Further, many cases run their course, with very little variation in the character of the stools for a long time; at length mixed in this watery discharge, a very few minute portions of consistent, apparently well elaborated feces make their appearance. These gradually increase in size and number, until as convalescence advances, the feces assume more and more a healthy consistence and aspect. In cases of this kind, in which there would seem to be no marked deviation in the quantity or quality of the bile, mercury, as a chologogue at least, does not seem to be demanded. It is not necessary to stimulate the liver when that organ is already doing its duty.

Calomel in doses of fifteen to twenty grains has been given for the purpose of arresting hemorrhage from the bowels, and it is said successfully; blue-mass, opium, and ipecac, as recommended for mucous stools have likewise been given for the same symptom, with satisfactory results. And in some cases although the hemorrhage was considerable, it has been let alone, and that too with success. The truth is, I do not think we understand the cause and import of this symptom. If it occurs, as there

is good reason to think it sometimes does, from the erosion of a considerable vessel, we shall probably be unable to control it by any means; if it is from the capillary vessels of the mucous membrane, it may relieve the congested vessels or be in some degree amenable to medicines. When in moderate quantity, and indeed in some cases when it could not be considered moderate, it has not appeared to injure the patient at all. Yet it is an ugly symptom and one which may prostrate the patient very speedily.

When it becomes necessary to open the bowels in the latter stages of the disease, injections of warm water should be used for that purpose, unless blue-mass or some other laxative should seem to be called for. In that case we should still be on our guard, lest whatever is given should irritate the bowels improperly.

ARTICLE 4.

MERCURY.

Of mercury, given to produce its constitutional effects, I know little. I have never given it for that purpose. In some cases I have had a sore mouth to appear during treatment. In fact I have thought that effect rather easily produced during this fever. I have seen this state continue a week, the patient all the time growing worse. Again, I have seen the patient improve during its continuance, without however being at all satisfied that convalescence was affected in any degree by its presence.

ARTICLE 5.

TONICS AND STIMULI.

Where there is a perceptible periodicity, quinine has appeared to be decidedly beneficial in arresting the paroxysms and mitigating the severity of the disease; but I do not know that it can be depended on to shorten its duration.* It is true however that it has sometimes *appeared* to have that effect; and some of my medical friends have a considerable confidence in its powers in this particular. In the latter stages, when the powers of life begin to flag, it may likewise be administered with benefit. It has appeared to me that under these circumstances, a combination with a small portion of blue-mass adds very much to the beneficial effects of the quinine. Dr. Desha places much reliance upon quinine combined with calomel or blue-mass, as an antidote for profuse diarrhea. I have used calomel gr. xii with quinine gr. v, or a similar dose in several instances with much apparent advantage. I have used it too where no benefit resulted from it. Altogether I have a favorable opinion of the prescription and think it well worthy a fair trial. It may not be altogether irrelevant to remark that in 1833 during the cholera, I thought nothing insured a satisfactory action from calo-

*I am inclined to think that there is frequently a periodical depression in this disease which escapes observation, *e. g.*: Whilst sponging a patient who complained of warmth, and whose forehead felt warm to my hand, I observed a very perceptible lividity of the lips and also of the nose; this lividity indeed was perceptible in the countenance, but would perhaps have escaped observation had it not been for the nose and lips. The toes were very slightly cool. This was all the evidence of depression. Acting upon this hint, I gave ten grains quinine a few hours afterwards and repeated twice a day for several days, with, apparently, the most unequivocal good effects.

mel so certainly as a combination with it, of five or ten grains of quinine. For this condition of the bowels Dr. Barlow has used with much satisfaction the tinct. camph. in doses of a teaspoonful.

I have seen, since writing this essay, some cases in which quinine appeared to have a most happy effect, *e. g.*: Mrs. G., February, 1849, had taken a small dose of calomel and some smaller doses of blue-mass, ipecac, and opii, without any apparent benefit. Having a profuse watery diarrhea, frequent small pulse, tongue thickly coated and dry, extreme muscular weakness, incoherence; she took quinine grs. v in the morning and again in the evening. After that grs. x every morning for several days. The dose was then gradually diminished. No other medicine. Under this course the diarrhea diminished and eventually constipation was established so that she had no stool for six days, when her bowels were moved by injection; the tongue improved gradually, the pulse came down, and her strength increased, and she had a regular though tedious convalescence.

Stimuli in the form of wine, brandy, or whisky, have seemed to exert a very beneficial influence in a few cases, those cases however have been but few. Whether their use was delayed too long, or I was unfortunate in my selection of cases, I know not, but upon the whole I have no great cause for gratulation. Some of my brethren however speak much more encouragingly of their use. In one case I used whisky pretty freely, where there was a distinct pulsation of the heart, one hundred and forty to the minute, with a weak one at the wrist seventy to the minute. It did no good. This was the case before mentioned, in which the emetic operated so unfortunately. Was it a case adapted to stimuli? Generally I have considered a weak impulse of the heart as indicating a necessity for supporting the powers of life.

ARTICLE 6.

APPLIANCES TO THE SKIN.

SECTION 1. *Blisters.*—When there is considerable pain in the head or abdomen, when venesection or cupping has been used if thought advisable, or the time at which either would have been allowable has been lost, a blister to the nucha or abdomen as the case may be, can be used with much promise of advantage. Upon my first acquaintance with the disease, I used blisters on the abdomen in nearly every case where there was any decided tympanitis. Such I think is the practice with many physicians. I have for several years, ceased their use for that symptom, for two reasons: One is, I am not sure that I have in any instance seen a decided advantage from their employment. Secondly, on account of their inconvenience. They occasion a considerable annoyance in the various motions of the body, and in the frequent risings to stool, the dressings are very apt to become deranged. But the chief inconvenience arises from their liability to produce strangury. And I think this liability is decidedly greater in typhoid fever than in most diseases. As intense a degree of suffering as I have ever witnessed was from the re-application of a blister. I therefore disregard tympanitis as an index, and am guided by pain; and sometimes when there is a torpor of the liver I apply one over that, as for the same symptom in other diseases. Occasionally we may take advantage of a blistered surface to apply morphia to it when there seems to be occasion for it, and we do not like to give it by the mouth or anus. I have seen a grain of morphia sprinkled upon a plaster of cerate and applied to a blistered surface induce sleep when there had been great want of it. I have likewise seen restlessness sensibly abate

under its use. We should remember, however, that morphine, used in this way, will sometimes affect the system as sensibly as if given by the mouth.

SEC. 2. When we should fear ill effects from the application of a blister, or the occasion may seem to demand some counter irritation, but yet the blister may seem unnecessarily severe, or there may be sufficient reason to think that it may not be necessary to keep up the irritation for a considerable period; sinapisms offer themselves as a suitable substitute for the blister. They may be used repeatedly on the same or adjacent spots, as long as may be deemed advisable. They have one advantage in requiring no subsequent dressings. It has appeared to me however, when I have applied a blister on a surface which had been acted on by sinapisms, that the blister did not draw as well as upon a surface to which no sinapism had been applied—unless indeed, it was applied pretty soon after the removal of the sinapism. My explanation of this circumstance is, that the sinapism produces a state of the skin similar to that produced by a slight burn. A milder remedy for the same purpose, yet one by no means to be despised in abdominal uneasiness, is a poultice applied as circumstances may require.

SEC. 2. Inferior to no remedy in this disease is the external application of water, cold or warm, as the case may require. When there is severe pain in the head, a stream of warm water poured for some time on the forehead will be found very efficacious in relieving it. Cold water applied in the same way or by cloths, will in many cases answer equally well. When there is much pain or heat, or both in the bowels, cloths wet with cold or warm water, especially the former, and kept constantly applied, will be found both grateful to the feelings and serviceable in relieving the symptoms. Free and frequent sponging with cold water will be found particularly efficacious in

reducing the heat of surface and febrile activity of the pulse.

SEC. 3. *Pediluvia.*—As there is great tendency to coolness of feet and knees, bathing the feet and legs in warm water two or three times a day, is often followed by much advantage. When there is much muscular prostration, and the patient is unable to bear the exertion of sitting up, he should be turned across the bed with his legs over the side, and his feet in a bucket of warm water, elevated to a proper height. When replaced in bed, the feet should be wrapped in warm blankets or have bottles filled with warm water or a warm brick applied near them. These warm bodies ought to be renewed whenever the extremities become cool. When there is much pain in the back, loins, or even in the limbs, it may very frequently be removed by rubbing the part with laudanum, or equal parts of laudanum and ammoniated alcohol.

ARTICLE 7.

DIAPHORETICS.

As there is generally a marked dryness of the skin, it would seem probable that this class of remedies would be particularly called for. Our anticipations have not been realised in their employment. And when a decided moisture is observed upon the skin, improvement does not always follow. Yet it certainly is desirable to keep the skin soft and as near the natural condition as possible. For this purpose Dover's powder or a mixture of morphia and ipecac. is perhaps oftener used than any other formula. Would the old prescription of spt. mindereri with vin. antim. and spts. nitre be beneficial? It is adapted to many forms of fever, particularly when there is

some tendency to irritability. No diaphoretic is better than frequent ablutions with cold water.

ARTICLE 8.

OPIATES

I have generally found valuable in the treatment of this fever. As mentioned when speaking of purgatives, I have generally found it proper to combine them in some form with the purgatives used at the beginning of the disease, to obviate irritability of the bowels. They are also sometimes necessary to procure sleep or remove restlessness. When it is necessary to give them by the mouth for this purpose, especially towards the commencement of the complaint, it is proper to combine them with some febrifuge to obviate their stimulating effects. When it is necessary to restrain diarrhea, that is when there are more than four watery discharges of moderate size in twenty-four hours, or larger, but fewer stools, amounting in all to more than a quart, we can give by injection from fifteen to thirty drops of laudanum in two ounces of warm water or thin starch, after each stool until they are reduced within due bounds. It sometimes happens that the bowels are too irritable to admit the retention of even that small bulk; in that case, half a grain of opium added to enough castile soap to make a common sized pill, introduced up the rectum, will be found a valuable expedient. For stranguary, whether arising spontaneously, or brought on by the application of a blister, I know of no remedy better than opium. This symptom may occur when there is occasion to restrain the bowels, or when the bowels do not require interference, or when it may be necessary to move them. In the first or second instance, from twenty to sixty drops

of laudanum, according to the urgency of the case, in two or three ounces of warm water thrown into the rectum will almost always relieve it. If the bowels require to be moved, then the same quantity in half a pint of warm water will be advisable. Should laudanum administered in this way fails we must give it by the mouth in similar doses.

ARTICLE 9.

EXPECTORANTS

Are sometimes, though according to my observation rarely, necessary. Then a weak watery infusion of ipecac with enough paregoric or morphia to prevent its running off by the bowels—a mucilaginous mixture, with small doses of wine of ipecac or antimony—infusion of senega with liquorice, with or without a minute opiate, will be appropriate.

ARTICLE 10.

DIET AND DRINKS.

SECTION 1. Diet.—The appetite being usually destroyed, there is little need for nourishment, indeed it will frequently be difficult to induce the patient to take as much as is proper. Nothing but the most bland articles should be allowed, and that in small quantity. Three or four teacupful of arrow root in the course of twenty-four hours are sufficient, or if the bowels are disposed to costiveness, the same quantity of gruel well made. It will

frequently be necessary to change these articles, one for the other according to the state of the bowels. As the disease advances, and the strength of pulse begins to give way, this diet may be seasoned with brandy or wine and nutmeg. This bland diet should be continued until convalescence is fairly established. There is no need to fear that under this course "the patient will never get his strength," as is sometimes said by the patient or his friends. After amendment has continued some days, the appetite frequently becomes pretty good, sometimes ravenous. Great care now becomes necessary to prevent injury from excess or improper food. There will be great disposition to indulge in improper articles. Some increase in the quantity of the bland food before mentioned, may now be allowed for two or three days; then something a little more substantial, as mush and milk, the milk being boiled or not, according to the state of the bowels—gradually, very gradually, returning to the ordinary diet. We should remember that we have had to do with a very grave affection, one distinguishing feature of which has been derangement of the digestive apparatus. We should infer that this apparatus will remain in a weak, irritable state for a considerable time, and therefore nothing should be presented to it, which by either quality or quantity would be in any danger of reproducing that irritation.

SEC. 2. *The drink* should be mucilaginous; but as most persons will become tired of one kind, when continued long, we find it necessary to change it occasionally. I do not know that there is a material difference between cold and warm drinks. Many physicians allow their patients to choose for themselves. For myself, when there is not a decided tendency to diarrhea, I have no choice; I permit any drink in moderation, which the patient may desire. Where there is a decided disposition to looseness, I prefer the drinks to be warm; or if there is no satisfying the patient with warm drinks, I allow wa-

ter to be boiled and then cooled to the temperature of spring water. I am not sure that this is not a matter of fancy: my reason, however is this—I have thought that our limestone water was rather apt to aggravate irritable bowels. I am of opinion too, that I have seen cold water, ice water, bring on diarrhea: wherefore I prefer that the water be boiled when this state of the bowels is present. Sometimes I choose to administer carbonate of soda or carbonate of ammonia in the drink as a means of removing the irritable condition of the bowels, or of supplying a mild stimulus; when we choose to administer the ammonia, we should remember that if it is added to the water above blood heat, the salt is decomposed.

When the disease is marked by decided mildness of symptoms, it is well to abstain from medicines and depend upon diet and regimen exclusively. It is very important, however, and sometimes very difficult, to distinguish between these mild cases, and those in which the disease increases very gradually, but steadily. These last are frequently the very worst cases we have to contend with.

ARTICLE 11.

MANAGEMENT OF PATIENT.

So far is it from being true, that this disease is a sine-cure to a physician—that he has nothing to do—that I know of no disease fraught with more solicitude and anxiety. It is true we do not think powerful doses of medicines called for, nor very active treatment proper; but the duration of the disease and the various points which, however important, appear to many to be small matters, yet

‘Make up in number what they want in weight.’

We should therefore reflect that we have to manage a case of considerable duration; and that how mild soever it may be at the onset, we have no assurance that it will continue so; and we must make our arrangements accordingly. We should select a room for our patient which is large and airy; one from which air and light may be excluded at pleasure, and little exposed to noise. Little furniture may be required: a bed for the patient, and something upon which the nurse may occasionally recline, a couple of chairs, one for the nurse and one for the physician during his visits, a table upon which such articles as are needed, as medicine and drinks, may be placed, suitable implements for warming drinks, &c., are all that are necessary. In the winter, a carpet at least by the bedside, will be proper. Indeed I do not consider a carpet will be objectionable at any time. It will tend to prevent noise in the room. The bedstead should be of a medium height, between the ordinary and the truckle bedstead, as more convenient to a patient of considerably diminished muscular power.

One of the most important things to the patient, and second only to the physician, is a suitable nurse. He should be kind, little disposed to talk, cheerful, decided in his temper, one who will have the control of the patient, and who will show to all who are disposed to meddle, that he *will have* the management of the case. As it will probably be necessary to administer injections repeatedly during the disease, he should understand the composition of them as given for the different intentions, and be qualified to administer them without pain or danger of irritation. He should have a light hand so as to enable him to dress blisters or do other necessary things, with the least annoyance to the patient. He should speak cheerfully and encouragingly to the patient; and although he should be civil to visitors, it would be well if he could give needless ones to understand that too much company

is not desirable. Some persons visit the sick that they may soothe their uneasiness, or show a disposition to do kind offices for them either in the sick room or without; many more visit the sick, that they may meet some one there to talk to, or to lounge away their time. The first require no accommodation, the second deserve none, and the sooner they are dismissed the better.

The temperament and especially the wishes of the patient respecting the admission of company or not, should be consulted. Some persons when sick, dislike to be annoyed by the presence of company, to such the less company is admitted the better. Others again have their spirits considerably enlivened by the presence of their friends; in such cases occasional visits by persons for whom the patient has a fondness need not be forbidden. But more than one or two should never be admitted at the same time. All gloomy conversation ought to be strictly interdicted; also all allusion to persons who have lately died, or such as are dangerously sick. Although the conversation should be cheerful, it should not be frivolous or light.

Each evacuation, whether by vomiting or purging, should be removed immediately. The bed and body linen should be changed frequently; the face and hands washed; and the head combed daily; the mouth rinsed every few hours when there is an unpleasant taste in the mouth; and when there is much dryness of mouth, it should be moistened as often as is necessary with some warm slightly demulcent fluid. All noise should be excluded; and all light at all oppressive to the eyes; but air in pleasant weather should be admitted freely, yet in such way that no current shall fall upon the patient. The offensive odor from the excretions or from the body, may be masked by burning paper or sugar in the room when the weather forbids a sufficient admission of air to carry it off. In addition to sponging the body with water, in hot

weather, the patient may be rendered more comfortable by wetting the floor repeatedly in the course of the day.

When the disease is very grave, every exertion possible should be avoided. Many times, when it would seem from the feelings of the patient, and indeed from his symptoms, that he might be able to walk about the room, rising to stool will produce a prostration from which some time will be required for recovery. In such cases he should not be permitted to rise. It will not do to encourage him to rise under the belief that the debility is fancied, rather than real.

All topics at all calculated to excite his mind must be excluded, and the mind kept perfectly quiet. Even when improvement has progressed considerably, exertion of both mind and body should be prevented as much as may be—divers persons have been supposed to be considerably advanced in amendment, who, upon transacting some business matters, have suddenly become worse, or even expired almost immediately.

CHAPTER VIII.

ARTICLE 1.

CASES.

To make my delineation of this disease as intelligible as possible I think proper to add a few cases of the disease—first, of some which terminated favorably, then of some that ended fatally.

Case 1st.—Ellen, colored, aged thirteen years, has been complaining for several days; took her bed 3d instant. Saw her on the 5th. Complains of universal muscular soreness and debility; considerable abdominal tenderness; headache; sore throat; tongue covered with white fur with red points appearing through it; pulse, lying, 100, sitting 120; tremulous motion of the lips; some diarrhea. *R.*—Calomel grs. x, pulv.; Dover, grs. v, *statim*.

6th. Four or five stools; less muscular soreness, but abdominal tenderness unabated; meteorism; skin soft, rather warm; pulse 90; throat still sore; tongue as yesterday. *R.*—Emp. episp. abdomini. Pil. Hydrarg. grs. xi, opii gr. i, hor. decub. Pediluvia.

7th.—Much as yesterday as to pulse, skin, abdomen, and tongue; has had several watery putrid stools. Blister did not draw well. *R.*—Reapply blister; repeat the pill at bed-time; gargle of capsicum.

8th.—Somewhat delirious last night; six stools of same character, one contained a lumbricus; feels better; throat not so sore; tongue disposed to cast off fur, but is left very red; meteorism and tenderness unabated; skin and pulse as yesterday. Blister drew well but does not dis-

charge well. R.—Injection of starch containing fifteen drops of laudanum after each stool.

9th.—Delirious last night, and occasional pain in the belly; six stools, somewhat more feculent, same fetor; two lumbrici; meteorism and tenderness of abdomen unabated; pulse, skin and tongue as before. R.—Remove the cuticle from the blister. Pil. Hydrarg. grs. v, pulv. Dover grs. ijss. Continue the injections. Arrow-root exclusively for diet; mucilage for drink.

10th.—Stools said to be less offensive, otherwise same as yesterday; meteorism and tenderness much less; tongue less red; skin warm and pleasant; pulse 82; less delirious last night; discharged a lumbricus from the throat; blister drying; took a pill of blue-mass and Dover's powder by mistake last night; was thought to be easier after it. R.—Reapply the blister; continue the arrow-root; and continue the injections provided the stools are more frequent than once in six hours.

12th.—Three stools in twenty-four hours; tenderness in iliac region; pulse 81; tongue reddish, smooth, and moist; some delirium last night. R.—Pil. Hydrarg. grs. v, to-night.

14th.—Pulse, asleep, 74, awake 78; tongue much as yesterday; skin soft; less delirium last night; one stool, less watery. Forgot to take the pill last night. R.—Pil. Hydrarg. statim; the blister to be kept discharging.

15th.—Pulse 78; tongue and skin as yesterday; three stools; still considerable tenderness in right iliac region; none elsewhere; no delirium; gums slightly sore; craves food. Continue the arrow-root and pediluvia. Continued to improve—discharged on 20th.

It is to be observed that the pulse on the 5th was 100; and on the 6th 90. This is to be explained, as I presume, by the fact that my first visit was made in the afternoon, and my subsequent ones in the forenoon. It is altogether probable that for several days the pulse in the afternoon

was as frequent as on the 5th, as there is usually an increase (especially in the early stage of the disease) of from five to fifteen strokes in the afternoon.

Case 2d.—Mrs. R. aged forty-one, was badly salivated ten years ago. Since that time has been in rather delicate health. Was considerably indisposed on the 27th of November, 1845, which increasing, I saw her on the 30th. Great suffering from pain in the head and back; right cheek flushed; respiration somewhat quickened and irregular; expiration rather sudden; no pain of chest; pulse 100; tongue slightly red and moist; skin rather dry; tinnitus aurium; slight nausea; some tenderness on pressing the epigastrium and right iliac region; abdomen scarcely distended. Took this morning a teaspoonful of table salt, which has moved the bowels three times, the stools liquid and of a putrid odor. R.—Calomel, Dover's powder a. grs. x, to be followed by small doses of sulph. magnesia at intervals during the night, provided there is any considerable fever; if not, and the calomel does not purge by 9 o'clock to-morrow, sulph. magn. ʒiii; laud. and alcohol, ammon: in equal quantities, to be rubbed upon the back; warm bathing to forehead.

Dec. 1, 1 P. M.—Pulse 82; tongue slightly red; skin as yesterday; pain in back and head much diminished; slight pain in neck and breast. Medicine has operated but once, thin and fetid. R.—Infus. senna to assist the medicine.

2d. 1 P. M.—Medicine operated five times, thin, fetid; tinnitus aurium considerable; little pain in either back or head; pulse 72; tongue as yesterday; soreness of abdomen. R.—Mucilage with super. carb. soda.

3d. 3 P. M.—Pulse 78; tongue and skin as before; pain in head, giddiness, tinnitus aurium; muscular debility is and has been very great; epistaxis; no pain in neck or chest; sense of fulness and tenderness of abdomen; one stool, fetid. R.—Pil. Hydrarg. pulv. Dover a. grs. ii, sexta. quad. hora.; mucilage for drink.

4th. 3 P. M.—No stool; pulse 75; respiration natural; skin and tongue as yesterday; neck and chest easy; abdomen scarcely distended but somewhat tender; pain in the top of the head; no tinnitus aurium; epistaxis; feet disposed to be cool. R.—Infus. senna; warm fomentations to head; mucilage for drink; keep the feet warm.

5th—Much as yesterday except head easy.

6th. 2 P. M.—One stool consistent, mixed with mucous, fetid; some pain in the head; no tinnitus aurium; considerable uneasiness in the back; pain in the bowels; pulse 80; respiration 20; feet more disposed to coldness. R.—Pil. Hydrarg. grs. iiss; tart. ant. grs. 1-10, to be taken immediately, and repeated at intervals of four hours; a large poultice to abdomen; warm applications to forehead. At 4 o'clock the pill had vomited and moved the bowels, discharge thin, cider colored, fetid; pain in head and abdomen abated. Discontinue the pills; and rub the back with laudanum and ammonia.

7th. 12 M.—Easy and comfortable; one stool, thin, fetid; pulse 68; respiration 17, regular; tongue less red. R.—Mucilage and gruel.

8th. 12 M.—Easy and comfortable; one stool; pulse 76, (perhaps occasioned by her having just taken a little nourishment;) respiration and countenance indicative of comfort; some appetite.

In this case much benefit seemed to follow the vomiting occasioned by the pill of blue-mass and tartar on the 6th. This is the case in which memory was lost during my whole attendance.

Case 3. James Tucker, aged 25, here three weeks, called at my office on the 5th of June, 1847, complaining of great muscular weakness; countenance pallid; pain in the head and back; bowels regular; no appetite; tongue slightly furred white. R.—Emetic of ipecac., which vomited him well, but did not act on the bowels.

8th.—Countenance more expressive of indisposition,

still very weak; bowels costive; otherwise much as before. R.—Calomel. Pil. Hydrarg. aa. grs. x, opii grs. i.

9th.—Pulse 90; skin soft; little tenderness of abdomen; respiration natural; tongue, countenance as yesterday; medicine has not operated. R.—Sulph. magnes. ʒii.

10th.—Pulse, morning, 98, evening 104; skin perspiring, warm; tongue smooth, red, and small; tenderness at epigastrium and right iliac-fossa, indeed, of right side of abdomen generally; six or eight stools, fetid, watery; feeling "right smart." R.—Suppository of opium after each liquid stool, until they are reduced to one in six hours. Arrow-root for diet, mucilage for drink. R.—At night pil. Hydrarg. grs. xv, ip. opii aa. gr i.

11th.—But one stool; skin and respiration natural; pulse 84; tongue as yesterday; no nausea; pain in abdomen; slept well.

12th.—Pulse 96; skin and respiration natural; head slightly uneasy; tongue unchanged; throat sore and red; one stool; abdomen tender and distended. R.—Seidlitz powder to be taken at 11 A. M.; gargle of capsicum, eve. Medicine operated five or six times, thin, yellow, fetid; pulse 90, skin natural temperature. R.—Suppository of opium after each watery stool.

13th.—Tongue red, aphthous; throat thought to be less sore; two stools, yellow, fetid; abdomen not distended, but slightly tender; pulse 96; skin natural; slight numbness of head. R.—Pil. Hydrarg. grs. viii, pulv. Dover grs. v.

14th.—Much as yesterday, no medicine.

15th.—Five or six discharges from bowels, watery, fetid, yellow; tongue broader, still red; no tympanites; some tenderness of abdomen; skin less warm; pulse 100. R.—Suppository of opium.

16th.—No stool since the suppository; pulse 95; tongue less red; abdomen easy.

18th.—Decided improvement; pulse 87; tongue be-

coming more natural; no stool; no tenderness of abdomen, some appetite. *R.*—Injection of warm water; no medicine. Continued to improve.

Case 4. Sylla, aged forty-five, has been complaining for some time of capricious appetite and general indisposition. July 22, 1841, took an emetic of ipecac, which discharged some phlegm, but little bile.

26th.—Some chilliness; slight pain in the back, neck, and head; tongue whitish, broad, considerable muscular debility; skin moderately warm; pulse frequent; not full. *R.*—Calomel \mathfrak{D} i.

27th.—Medicine has operated several times; stools thin and watery, slightly bilious. But little if any change in general appearance. *R.*—Calomel \mathfrak{D} ii.

28th.—Medicine has operated very much as before; skin not hot but dry; giddiness of head; sore throat upon swallowing; pulse 110 small; tongue disposed to be clammy. *R.*—Calomel \mathfrak{I} i.

29th.—Medicine operates frequently, stools small, watery, fetid; muscular debility great; skin dry, not hot; tongue as yesterday; does not complain of nausea; giddiness, and tinnitus aurium. No medicine.

30th.—Much as yesterday, except that the pulse is becoming quicker and weaker; bowels frequently moved, stools of same color; feet cool.

31st.—Tongue very white; skin dry and warm; little uneasiness upon pressing the abdomen; great muscular debility; still some pain in the back of the neck and singing in the ears; pulse 120; weak; diarrhea continues. *R.*—Emp. episp. to abdomen. Pil. Hydrarg. grs. v, thrice a day; enema of starch and laudanum, gtt. 20 after each liquid stool. Mucilage for drink, arrow root for diet.

August 2.—Tongue is casting its fur; red and clammy, skin very much as before; stools somewhat less frequent, but of the same character; some tenderness upon pres-

sing the abdomen, but no tympanites perceptible. R.—
Pil. Hydrarg. grs. v, night and morning.

4th.—Tongue has cast off a good deal of the fur, but is less red, and very much disposed to be dry; roaring in the ears, and soreness of throat unabated; bowels less disposed to diarrhea; had two stools, which from description, seem to have been consistent bilious ones. Is considerably stupid, which is attributed to the use of laudanum last night. She had a serous stool for which injection of fifteen drops laudanum was given and immediately returned. Thirty were given and retained. No meteorism. Somewhat deaf. R.—Pil. Hydrarg., night and morning.

5th.—Very much as yesterday, except that she has had no stool. R.—Injection of warm water to move the bowels, which brought two watery yellowish motions. R.—Pil. Hydrarg. grs. v, at night.

7th.—Pulse 112; countenance brighter, but delirious at night; tinnitus aurium continues; and soreness of throat when she swallows; bowels continue loose, six or eight stools daily, watery, yellow, and fetid. Skin nearly of natural temperature on the body, but feet cool; tongue dry. R.—Continue the medicine. Add a spoonful of wine to each cup of arrow-root. Pediluvia and warm brick or sinapisms to feet as may be necessary.

10th.—Seems to be slightly improving; countenance better; pulse 110, but weak; skin of natural temperature on body, but dry, cool feet; tongue still dry; bowels still loose, will not retain the injection of starch and laudanum. Talks less incoherently. R.—Suppository of opium in lieu of the injection. Continue the arrow-root with wine; mucilage for drink. A blue pill every other-night.

15th.—Remains very much the same, except that the bowels are less disposed to diarrhea—indeed it was deemed advisable to-day to give an enema to move the

bowels, which caused excruciating pain. Some tenderness of abdomen; for the last two days gurgling can be produced by agitating the right iliac region; pulse ranging from 112 to 120 small. Skin not particularly dry, and of good temperature, but feet cool; does not complain of head; tongue still dry, and covered with a granular coat, like half dried mortar; throat said to be less sore. Continue medicines and diet. If it should be necessary to move the bowels, a small quantity of *ol. Ricini*. Blisters have been kept discharging on the abdomen.

19th.—She remained very much as last reported the next day, except that she seemed to be touched with mercury, breath slightly tainted, and the parotid gland began to swell; in consequence of which the blue pill was discontinued. It has been necessary to give one small dose of oil (*f3ii*) to move the bowels. By some strange mistake, or else to try a project of his own, her husband introduced a candle up the rectum. When it was taken out, it was found smeared with blood. There was some difficulty of swallowing, though she complained of no soreness of throat. Of late, has had little disposition to talk, but appears rational. Her strength was thought to have improved, and yesterday morning she sat up on the bedside and washed her face and hands; but when I arrived, at 11 o'clock, she seemed to be dying. Her extremities were cold, and her body covered with a clammy perspiration; respiration short, and pulse scarcely perceptible. Friction to the jaws had appeared to diminish the swelling of the parotid glands. By stimulants internally and sinapisms externally, on yesterday, she rallied considerably, but sank and died to-day at 12 o'clock.

This was among the first lot of cases which I recognised as typhoid fever. In the commencement of the case, I acted upon my experience in bilious fevers, and increased the dose of calomel to procure consistent bilious stools; seeing, at the same time, that the form of fever

was materially different from ordinary bilious fever. Whether the administration of these large doses of calomel exerted any decided influence of injurious tendency, I cannot with any assurance say. One thing is true: the pulse became rapid much quicker than it usually does. Though I have seen it undergo that change still more rapidly, when it could not be attributed to calomel, or any other mode or treatment. It satisfied me that large doses of calomel were not *the* remedy in this kind of a case. This case, exhibits, too, the want of correspondence between mercurializing and improvement, as the patient continued to grow worse during its inception and progress. Appearances on dissection are given already.

Case 5. Joel Holden, aged 27, of low stature, but very corpulent, has been complaining four days of general indisposition; some general chilliness and feverishness; had taken three doses of extract of white walnut, which had procured "consistent dark bilious stools," as represented by him; also, an emetic of ipecac. At present (May 9th, 1847), pain in head and back, face flushed; pulse 88; tongue furred, whitish, broad, indented by teeth; some diarrhea; no tympanites or tenderness of abdomen; considerable restlessness and anxiety; temperature of body increased; skin not harsh; respiration natural, muscular weakness. R. Calomel, gr. xii., pulv. Dover, gr. x. M.

10th.—Very much as yesterday; very restless, anxious, and of evil foreboding; skin warm, but not harsh. R. Calomel, pil; hydrarg. a gr. v.; ipecac, gr. i; op. gr. $\frac{1}{4}$.

11th.—Pulse 90, rather full; respiration natural, except occasional sighing; tongue rather more white, broad; constant screatus; very uncomfortable sensations referred to the epigastrium; four stools, thin and watery; no tympanites or marked tenderness; heat of surface somewhat increased, skin dry; pain in the back. R. spts. nitre ʒi, ipecac, gr. i, every two hours. Back to be rubbed with laudanum and ammonia. If bowels become troublesome,

enema of starch, with 20 drops of laudanum after each stool, until reduced to one every six hours.

12th.—Less pain in back; four stools, bright yellow, of rather more consistence—of thin molasses. The ipecac vomited him; threw up phlegm, mixed with a little bile; skin still warm, face flushed; rather less distress at epigastrium, but still restless; tongue continues whitish, something more red at the tip and sides; no tenderness or meteorism. R.—Calomel, pil hydrarg., a gr. x, morphia gr. $\frac{1}{4}$.

13th.—Pulse 94, skin warm over whole surface; face flushed, sometimes one cheek, sometimes both; tongue very much the same, screatus continues; complains of some soreness of throat; upon examination, it was found somewhat red; still much uneasiness of epigastrium; three stools, same character; slight tympanites, urine of good color and ordinary quantity. R.—Ipecac, gr. i, every hour during the febrile excitement during the evening. Mucilage with carb. soda for drink; a blister to epigastrium to-night, sponging body with cold water during the fever; early to-morrow morning, pil. hydrarg., gr. x, quinine gr. iv, sulph. morph., gr. $\frac{1}{8}$; gargle of capsicum.

14th.—Pulse 96, skin warm; perspired freely yesterday; tongue very much as before, perhaps a shade more red; sore throat, screatus continues; less oppression at epigastrium, in consequence of which the blister was not applied as directed; three stools, still deep yellow, and same consistence; immense discharge of flatus during defecation; no tenderness of abdomen, but still slight meteorism; some pain in head, and thought to have been somewhat delirious last night; respiration somewhat irregular; sighing. R.—Repeat the blue mass and quinine to-morrow morning; blister to back of neck to-night. Continue the sponging whilst the heat of body is considerable.

15th.—Blister drew well, but the head is very little re-

lieved; two stools, same character; considerable discharge of flatus; black powder in bottom of vessel; tongue much the same; throat more sore, somewhat ulcerated; screatus continues; some nausea last night; skin still warm; lips remain plump, abdomen as yesterday; pulse 96. *R.*—Gargle of nitrate potash, brandy and honey. Continue drinks and sponging; no medicine. Cut off the hair.

17th.—Delirium is increasing, notwithstanding the blister discharges freely; face continues flushed, lips plump, tongue more red, throat no better; respiration irregular, abdomen as last stated; two stools, much flatus; countenance becoming more anxious; pulse 100. *R.*—Pill hydrarg., pulv. Dover a gr. iii, sexta quaque hora. Carb. ammonia, gr. ii, secunda quaque hora in mucillage.

19th.—Pulse 105; [it is generally, of late, from 10 to 15 more frequent at night than at my visit,] skin still above the natural temperature. On the thorax is an eruption, which seems an effort at the rose-colored spots; at least there are some fifteen or twenty tawny spots, of about the size, slightly elevated. Tongue broad, brown, red at tip and edges; complains less of throat, though it is still ulcerated; screatus continues; tympanites, but no tenderness; two stools, unchanged, flatus excessive; urine of good color; more delirious, still restless; on 18th perspired freely. Of late emaciation has progressed considerably; and the countenance is becoming sharpened. *R.*—Continue the medicines, emp. episp. to epigastrium

21st.—In every respect worse; countenance more sharpened; but the lips have retained their plumpness throughout his illness; tongue more brown, but moist and broad, red at edges and tip; two stools daily; skin warm; no change in the spots; deliribus night and day; pulse 130.

23rd.—Becoming comatose; eyes suffused; tongue still moist but dark, meteorism; has had no stool for sixty

hours; pulse too quick and tremulous to be counted with certainty. I left him with the belief that he would not live more than twelve or eighteen hours; but he did live between two and three days, sinking very gradually, without having another motion from his bowels.

In this case, medicines did not appear to exert any influence whatever. The fecal discharges were all the time of a rather bright yellow color, differing little in color or consistence from healthy bile; and the diarrhea was at no time very troublesome. The febrifuges appeared to mitigate the fever at the time of administration, but next day it was at least as high as ever. Sponging was very grateful, but otherwise seemed of no use. Quinine had no effect in postponing or mitigating the afternoon exacerbation. Perhaps if it had been doubled or trebled it might have done better. Blisters drew well, and discharged well, but seemed to produce no effect. Restlessness was very great, yet almost every night he would get some comfortable sleep, either in the early or latter part of the night.

[This account, including some additions to the report made in 1846, was prepared in 1847, but I have not hesitated to add some other facts and observations of later date which I thought worthy of insertion.]