

A report to the Indiana State Medical Society, on Asiatic cholera, as it prevailed within the state of Indiana, during the years 1849, 1850, 1851 & 1852 : with observations on the laws which govern its progress / by George Sutton.

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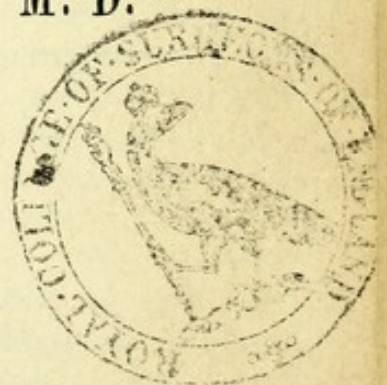
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A REPORT
TO THE
INDIANA STATE MEDICAL SOCIETY,
ON
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ASIATIC CHOLERA,
AS IT PREVAILED WITHIN
THE STATE OF INDIANA,
DURING THE YEARS 1849, 1850, 1851 & 1852.

WITH OBSERVATIONS ON THE LAWS WHICH GOVERN ITS PROGRESS,

BY GEORGE SUTTON, M. D.



INDIANAPOLIS:
ELDER & HARKNESS STEAM PRESS PRINT.

1854.

INDIANA STATE MEDICAL SOCIETY

ASTATIC CHOLERA

AS IT PREVAILED IN

THE STATE OF INDIANA

This Report was read to the Indiana State Medical Society, at a meeting held in Lafayette, May 18th, 1853.

WITH OBSERVATIONS ON THE LAWS WHICH GOVERN THE DISEASE

BY GEORGE SUTTON, M.D.

INDIANAPOLIS:

ELDER & HARRIS, STERN PRINTERS.

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A REPORT
TO THE
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ON
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AS IT PREVAILED WITHIN THE STATE OF INDIANA DURING
THE YEARS 1849-50-51-52,
BY GEORGE SUTTON, M. D.

In compliance with the duties assigned me, as Chairman of a committee to present a report to this meeting on Asiatic Cholera, as it prevailed within the State of Indiana, I forwarded letters, early in the month of January, to the different members of the committee; but these gentlemen not feeling disposed to engage in the labor necessary to procure the desired information, I undertook the task myself, and addressed letters and circulars to a large number of physicians throughout the State, and have obtained information sufficient to make out the following report, which I respectfully present to you.

When, in the winter of 1848-9, it was announced by telegraph that Cholera was prevailing as an epidemic in New Orleans, physicians saw that it was but the announcement that this pestilence—which had been for several years previously progressing through Europe in a westwardly direction—had a second time commenced its desolating march upon this continent, and was destined to invade every State, and leave a wide-spread impression throughout our land. We watched its progress from New Orleans, as it gradually ascended the Mississippi and Ohio rivers. At first it was principally confined to the steamboats—many of which left that port crowded with passengers for the north; on these boats it frequently prevailed in its most malignant form. As the season advanced, the disease began to occur amongst the inhabitants of the towns and villages along these rivers; for early in the month of April we saw notices in the public papers of Cholera occurring at

different towns below Cincinnati and St. Louis. The cases were sporadic at first, but became of more frequent occurrence as the month advanced; and about the first of May we may consider the disease assuming, in many parts of the West, the form of an epidemic; and before the middle of June it was prevailing in this form at several of the river towns in our State.

In tracing the progress of Cholera in the State of Indiana, I commence with that portion of the State which came under my own observation; then present the information which I have been able to obtain from the counties on the eastern side of the State; then from those on the north; next, from those in the centre and the west; and lastly, from those in the south and south-west. I believe the information obtained, includes nearly all the prominent points within the State at which Cholera has prevailed. Although this information in many instances has been extremely brief; still it will enable us to form some idea of the extent to which the disease has prevailed—of the course of treatment adopted by our physicians; and also furnishes us with the observations of a number of our physicians on the manner in which the disease is propagated, as well as its predisposing and exciting causes.

DEARBORN COUNTY.

The first place in this county, and one of the first in the State, that was visited by Cholera in an epidemic form in 1849, was Aurora, a little town situated on the Ohio river, 26 miles below Cincinnati, and at that time containing about two thousand inhabitants. The country around Aurora, on the south, the west, and the north, is diversified with hills and valleys; these hills rising to the height of from 450 to 500 feet above low-water mark. On the north-east side of Aurora, commencing within the town, is an extensive tract of alluvial bottom land, known as the great "Miami bottoms," extending in one direction more than fourteen miles, and varying from one to four miles in width. Within this tract of low land is Lawrenceburgh, Hardintown, and Elizabethtown. The soil on this alluvial formation is deep, black, and fertile, which is caused by the occasional inundation of a large portion of this bottom. Hogan Creek passes through the upper part of Aurora; its banks are muddy, and water generally stagnates to the distance of about two miles above its mouth. The geological formation of this section of the country, is the lower silurian, or blue limestone of western geologists.

Aurora being a good shipping point, a large number of its inhabitants are river traders, and spend the winter months in

the south. When cholera made its appearance in New Orleans in the winter of 1848-9, five of our citizens became its victims before they reached home; others returned to Aurora, laboring under diarrhea, having returned on boats on which cholera was prevailing. One man was landed at Aurora, on the first of January, from a steamboat, on which there had been a number of deaths from cholera. He had had diarrhea for several days, and a few hours after his arrival was attacked with vomiting and purging, also cramps of the extremities. The discharges, however, were not at any time those of the "rice water" character, so peculiar to cholera. The disease gradually assumed the form of a typhoid fever, of which he died after about a week's illness. Whether cholera was connected with this case, I am unable to say. No other cases occurred at the house where he died; although from this time, during the months of January, February, and March, we had a number of cases of vomiting and purging of an unusual character. These cases were easily managed, and attracted but little attention.

In the fall, scarlatina made its appearance at Aurora, and assumed its most malignant form. This disease continued to prevail until about the first of February; when it gradually disappeared, and was followed by measles, which also assumed rather a malignant character. Had these diseases any connection with the subsequent appearance of cholera in this town? It shows at least, as they assumed a malignant form, that some depressing cause was operating upon this community; and it is well to bear in mind also, that in 1831 and 1832, previous to the appearance of cholera, scarlatina prevailed extensively along the valley of the Ohio river.

About the first of May, diarrhea became prevalent, and gradually increased during the month. Sudden attacks of vomiting and purging, connected with profuse perspiration and a remarkable depression of the vital powers, were of frequent occurrence. In several families, the different members were attacked in succession. Some of these cases, which had been neglected, assumed well marked symptoms of cholera, viz: rice water discharges, a dark and shrunken appearance of the skin, severe cramps of the extremities, &c. But still we had no deaths from cholera up to the 12th of May; although we had a greater amount of ill health than I had ever before witnessed in this neighborhood. This sickness was principally confined to Aurora and its immediate vicinity; it was easily managed, and did not create any alarm. On the 19th of May, at midnight, I was sent for to attend one of our citizens, who was landed at Aurora from a steamboat on her way to Cincin-

nati. I found him in the collapsed stage of cholera; he died in a few hours afterwards. A large number of persons visited this patient, and several were in constant attendance on him; but there were no well marked cases immediately followed. Several persons at the tavern, where he died, were attacked shortly after with a mild form of diarrhea. On the 5th June, a woman residing near my residence was attacked with diarrhea; this was followed during the night by vomiting and cramps of the extremities; towards morning, she suddenly became faint and prostrated, and her friends for the first time were alarmed. I was sent for, and found her passing into collapse; she died about three o'clock in the afternoon. This was the first death from cholera which appeared to originate within the town. This woman had an attack of diarrhea about a week previous, which then yielded readily to medicine. The last attack was brought on by imprudence in diet. She had not been away from Aurora, but she had seen a number of persons shortly after their arrival from New Orleans, who were unwell with *diarrhea*. About the same time, a woman who resided five miles below Aurora, died of cholera. The next day her sister was severely attacked, but gradually recovered. Several of the neighbors were afterwards attacked with diarrhea. The first woman was in Aurora a few days previous to her illness; and the others had been in attendance on her. My object in presenting these cases, is to show the manner in which it is probable the disease was introduced into our neighborhood.

On the 9th, a man died at Aurora, who left Cincinnati a few days previous unwell with diarrhea; he was suddenly attacked about noon with cholera, and died that evening between 9 and 10 o'clock. There had been an unusual amount of sickness during the day; and fresh cases continued to occur during the night. About 11 o'clock, I saw a patient, in consultation, who was attacked with faintness and vomiting; shortly after I was called to see another patient who had a severe attack of diarrhea. Towards 2 or 3 o'clock in the morning, the husband of the woman who died on the 5th, was attacked with cholera; also his sister, residing in the same house; and about the same time, three of his neighbors. All these cases were within a few yards of my residence; and the same cause which was producing this sickness, was also operating upon my system, for while attending these patients, I was suddenly attacked with diarrhea, which was immediately followed by a very profuse perspiration. I went home, and took several large doses of a mixture of catechu, camphor, and laudanum, which in a short time checked the diarrhea; and, after a few hours' rest,

(although very much fatigued from the previous day's labor,) I felt almost well again and continued my practice. I visited patients until about eleven o'clock, when the diarrhœa returned, accompanied with vertigo and an unusual feeling of lassitude. That night, or rather towards morning, I was attacked with vomiting accompanied with cramps in my stomach and legs, and an inexpressible smothering or oppressive sensation in the epegastric region. This is a symptom belonging to Cholera that I have never seen properly described. In fact it is very difficult to describe. It is a peculiar sensation, that immediately precedes either the act of vomiting, or the discharge from the bowels, or cramps. I will notice this symptom again. During the day I got better. That night there were four fresh cases, all in the same part of the town—a few yards from where the first cases occurred. Those persons attacked on the 9th and 10th, were convalescent, with the exception of two, who died during the day; and the four last attacked died before night, making six deaths on the 11th. There was nothing remarkable in the weather, which should cause the disease to become so malignant. I noticed on the 10th, the sky was clear; the thermometer ranged from 63 to 84 deg. during the day, and the barometer stood at 29 inches 53–100 in the morning. Both these instruments indicated but little change in the atmosphere for several days. I had kept a daily record of both the thermometer and barometer for several years, but could not discover any remarkable change up to the time of my illness; and at that time I got my friends to observe the variation of these instruments. On the 12th we had eight deaths—all confined to the same locality; amongst the number was my son, in the fifth year of his age. He went to bed in the evening apparently unusually well, and was attacked about five o'clock in the morning with vomiting and diarrhœa—both of these symptoms came on at the same time; although an active course of treatment was immediately resorted to, still he rapidly sank into collapse, and died after about eleven hours illness; nearly all the cases that occurred this day, were among children. During the day, Drs. Harding and Tate of Lawrenceburgh, Drs. Ebersol and Locke of Wilmington, and Dr. Haines, Sen., of Rising Sun, were sent for, and assisted our physicians in treating the disease. But all regular treatment was abandoned; the prescriptions of the Quack were given alternately with those of the regular physician. The people seeing that a large number of those attacked died, resorted to every "Cholera specific," or nostrum for the disease, that could be obtained. The inhabitants were daily leaving for the country, and the town bid fair

to become entirely depopulated. Some persons thought the disease was produced by drinking the water from a well situated at the corner of my lot, as nearly all those attacked had been in the habit of using this water. The well was at once abandoned, and cistern water was generally used instead. But the disease still continued to progress and attack those who resided within the infected district, many of whom remained to assist the sick; others thought that fear made the epidemic more malignant, which possibly, in some instances, was the case, as we know that mental emotions may derange the action of the stomach and digestive organs, but we must also bear in mind that the disease prevailed with the same fatality amongst children that it did among adults; and they had not the least dread of the disease, and persons who faithfully attended the sick, and never manifested the least alarm, died as suddenly as the most timid. On the 13th we had four deaths, all in the same locality. This day my daughter was suddenly attacked with diarrhea, and all my family were unwell. I was attacked with hematuria, which continued about 12 hours—the hemorrhage gave relief to a painful sensation in my side.

On the 14th large fires were made at the corners of the streets, in the infected portion of the town, and cannon were fired every twenty-five minutes for four or five hours. This, I have no doubt, did harm. We had 14 deaths this day, and the disease was unusually malignant. Some died in four hours after they were attacked. The weather was warm and sultry, and to those that believe that an electrical condition of the atmosphere favors the progress of Cholera, I may state, that about midnight we had a thunder storm of more than usual severity; the lightning struck a dwelling house near the infected district, and there was a very heavy fall of rain. The next morning, the 15th, the atmosphere was beautifully clear, and the streets were washed clean by the heavy rain that fell during the night. This day we had five deaths. Among the number was an estimable lady who had been very active in attending on the sick. She was attacked with the disease in the night, and died in a few hours. Her residence was in the infected locality, and from her benevolence, and energy, and the difficulty in obtaining attendants, her death was felt as a severe loss to the community. On the 15th, we had six deaths. By this time nearly all that could leave the infected portion of the town had left. Deaths continued to occur daily among the inhabitants that remained.

On the 20th, our youngest child (in the second year of his age) was attacked, apparently more violently than our little boy who died; but contrary to my most distant expectations

he gradually got better, although he did not entirely recover from the effects of this illness for more than a year. On the 21st, a man and his wife, who were our nearest neighbors, both died. The man had been constant in his attendance on the sick from the first appearance of the epidemic, and I, as well as many others, were under deep obligations to him for his kindness and attention. Fatigue, I have no doubt, brought on his attack of cholera; his wife was attacked violently the day before, and not being able to obtain assistance, he attended her all night alone, administering remedies, and early in the morning was attacked himself. Although very much enfeebled, and unwell with diarrhea, I assisted in the treatment of his case. Our remedies, however, seemed to have no effect; he rapidly sank, and both he and his wife died within a few hours of each other, in the evening. This made three deaths out of this family of six persons. To give some idea of the malignancy and fatality of the disease in this part of the town, which I believe to be the *healthiest*, as it is the farthest from the river, the creek, and our two distilleries, and by no means densely inhabited, for nearly every alternate lot is vacant. In the first house east of my own, there resided four persons, all adults, three of whom died. The house directly opposite to mine was occupied by eight persons, five of whom died. In the house back of my own, there were four deaths out of a family of six; and in the first house west of mine, there were, as I before mentioned, six persons, three of whom died. In the adjoining house to this one, resided a man, his wife and child; the man and wife both died. In the next room beyond, a woman died. In the next house were five persons, three of whom died. In the next house beyond this one again, a man and his wife resided, they both died; and in every house along the street in this square, there were more or less deaths. Then back of these buildings, along the next street, which is some 25 or 30 feet higher, as this portion of the town is on the hill side, the mortality was equally as great. There were in the infected district about 97 inhabitants, 51 of whom died. Several left at the commencement of the disease, that are not included in this number. My family, six in number, was rather more fortunate than most of our neighbors—we lost but one, although all unwell. I had diarrhea almost daily, and had become so enfeebled that I could scarcely walk; and I have not been able to hear of any person who resided within this part of the town, that was not more or less unwell. Three weeks from the time cholera assumed its malignant form, our town presented the most desolate appearance—1,600 out of a population of 2,000, had left the place. The

few neighbors we had were most of them too unwell to leave their houses ; and as we saw but few individuals, the part of the town in which I resided appeared almost entirely deserted. Those who went to the country, with few exceptions, soon regained their health ; for out of the 1,600 that left Aurora, there were only 13 deaths, and nearly all who died were attacked before they went away, and it is worthy of remark, that, although the citizens that left Aurora unwell regained their health, yet they appeared in many instances to communicate the disease to the inhabitants in the country. Living in the midst of this infected district, I had a good opportunity of observing, from day to day, the progress of the disease, and its effects upon myself and family. We all felt an inexpressible sensation of lassitude and debility ; the least imprudence in diet would bring on diarrhea, and I noticed in myself that sometimes a draught of cold water, or a little fatigue, or a change in the weather, would bring on symptoms of the disease. I found it necessary ultimately to remove my own family from this infected portion of the town for the restoration of their health : the change produced at once the best effects. Deaths continued daily to occur ; and on the 3rd and 4th of July, it appeared with fresh violence in another part of the town, about half a mile below where it had been prevailing. On the 3rd there 14 deaths. The weather suddenly became cool, which I have no doubt was the cause of the increased mortality, as I noticed at this time there was an increase of the disease at Cincinnati and St. Louis. On the 23d of July, a large distillery, flouring mill, and corn house, besides several other buildings, were destroyed by fire. As the disease was still prevailing, (for at the time the alarm of fire was given I was attending a case of cholera, and there were several cases near the mill,) I felt a deep interest in observing whether the excitement and unusual exertions of our citizens in saving property and extinguishing the fire, would not produce an increase of the disease, but it did not. The disease gradually continued to decline up to the 2d day of August ; and after that time we had no deaths from cholera, and our town became unusually healthy. On the return of our citizens, there was no increase of the disease. During the fall, dysentery prevailed in the surrounding country to a considerable extent ; there were but few cases at Aurora. We had now lost, from the 27th of May up to the 2d of August, 132 of our inhabitants—51 men, 34 women, and 47 children under 12 years of age. While the cholera was prevailing, several dogs and cats died suddenly in the infected portion of the town, which was supposed by some to be caused by cholera.

I before stated, that out of 1,600 persons who left Aurora, there were only amongst them 13 deaths. We will now follow some of these cases, as they appeared to introduce the disease into the country. A Mr. Kastner, who resided in Aurora, was attacked on the 14th of June with diarrhea. He was taken about 16 miles to the residence of his father-in-law, where he died in a few days after. Dr. Bowles, of Harrison, who attended him, writes me, that "the cases of cholera which apparently occurred as the result of communication direct or indirect, with Anthony Kastner, were in number 15, of which 13 were fatal, and 2 recovered—Kastner excluded, who was the only patient I visited in that neighborhood; he died from the effects of cholera. The disease was confined to the Stewarts' connections, that is the father-in-law's, and with two exceptions, to his immediate neighborhood, which is located on the limestone hills between the Dry Fork and Miami river. One of the cases excepted resided on the Brookville road, two miles from Harrison; the other, on the sandy flat situated near the infected district, and were frequent attendants there. In that district, the following winter, typhoid fever prevailed. I am not aware *that during 1849 any other cases of cholera appeared in that neighborhood.*"

Another one of those who died after leaving Aurora was a Mrs. W. She resided in the infected portion of the town, and had been attending the sick. She left on the 14th, unwell with diarrhea, and went to her relatives in the country—that evening she was attacked with cholera, and died during the night. In a few days after, a child and a young man residing at the same house were attacked and died; then her brother and his wife were attacked, but they recovered; then another brother and his wife, also two of his neighbors; then the brother-in-law—all of these died. There were ten cases and eight deaths which appeared to have a connecting link with the first case, or at least with one another.

Another one of the citizens of Aurora that died in the country was a German, of the name of Henry Swanega. He was attacked with diarrhea, and went to a friend of his who resided about six miles from Aurora, in a very secluded situation. In the afternoon he eat some mulberries—that night he was attacked with cholera and died. The next day, another person residing at the same house was attacked and died; and on the third day another relative died from this disease. There were other members of the family attacked with diarrhea, but recovered. They lived, as I before mentioned, in a retired situation, and consequently but few persons were exposed to the disease. Previous to the arrival of Swanega, the neighborhood was healthy.

Another one of the 13 was a Mr. Willcox. He was attacked with diarrhea, and left Aurora unwell on the 2d of July. His wife, at the time, was just recovering from an attack of cholera, and was barely able to be removed. He went to one of his relations residing in Kelso township. In a few hours after his arrival, he was attacked with cholera and died. The disease then spread amongst the neighbors who attended him; and from them through the neighborhood, until within ten days there were 26 deaths—amongst the number was the attending physician, Dr. Sherry. I have been credibly informed that previous to the arrival of Mr. Willcox, there was no sickness in the neighborhood. The other deaths occurred in Sparta and Manchester townships, in this county, in Dillsborough, and in Lawrenceburgh. The letters of the physicians of Sparta township and Lawrenceburgh will describe the disease as it prevailed there.

A large number of our citizens, many of them quite unwell, went to Wilmington, a little village containing about 250 inhabitants, two miles from Aurora, on an elevated and in a very healthy situation. At this place cholera made its appearance, and there were nine deaths, besides a number of cases. There were two physicians at Wilmington—one of them, Dr. Locke, died from cholera. I saw him shortly after he was attacked; he stated that he had diarrhea the day previous, but attended to practice until late in the evening; he was attacked with vomiting in the morning, and died after about nine hours illness. The other physician was also unwell. I might here remark that four physicians of Dearborn County died with cholera—Dr. Taylor of Dillsborough, Dr. Locke of Wilmington, and Dr. Sherry of Dover, in 1849; and in 1851, Dr. Loda of Aurora.

After the disappearance of cholera in our county, which was about the 1st of August, dysentery began to prevail. We had but few cases at Aurora; it was principally confined to the country, and, with a few exceptions, it was not of a very malignant character.

In the year 1850, Aurora was remarkably healthy, although we had a few cases of cholera. In April, a man landed at Aurora from a steamboat. He went to the residence of his father-in-law, about a mile and a half in the country; he was attacked with cholera and died. The second day, his father-in-law took the disease and died; and in six days from that time, their nearest neighbor was attacked with the disease and also died. Several children in these families were attacked severely with diarrhea, but recovered. Only a few persons saw these cases, and at the time, with this exception, the

neighborhood was unusually healthy, and I do not believe there was another case of cholera in the county. Was it a singular coincidence that cholera occurred in these families after the arrival of this man from off the river? About the 1st of July, a man residing in Aurora was attacked with cholera and died. The next day his wife and four children were attacked—the woman and one child died, the other children were removed from the house and recovered. On the 9th, another one of our citizens was attacked and died, after a few hours' illness. The family was removed to the country, and with the exception of two of the children being unwell, the disease did not spread. These are all the well marked cases of cholera that occurred at Aurora this year; we had, however, frequently what I considered the diarrheal form of the disease. Our inhabitants appeared in a great measure to have lost their susceptibility to the disease. A packet boat was running daily between Cincinnati and Aurora—the cholera was prevailing at Cincinnati, and our citizens had daily intercourse with that place, but the disease appeared to have no tendency to prevail amongst us as an epidemic. Not so, however, with some portions of our county; in York township, cholera in connection with dysentery began to prevail about the 1st of August, and from that time up to the 3d of September, there were more than fifty deaths. It prevailed upon the highlands, no cases occurring within the valley of Tanner's Creek.

In the year 1851, Aurora was again remarkably healthy; we, however, had a few cases of cholera this year. In August, one of our physicians, a few days after his return from Cincinnati, was attacked with cholera, and died after about eight hours' illness; ten days afterwards, a woman who resided in the next house to the doctor's, was also attacked, and died in a few hours. On the 9th of September, about 14 days after, a little girl residing in another part of the town was attacked with cholera and died; five days afterwards, her father had a severe attack, but recovered. About the same time, a little boy residing near these cases, died with symptoms of cholera; four days afterwards, his sister, who was a servant-girl at the house of one of our physicians, was attacked with cholera and died. These were all the deaths that occurred at Aurora and in its vicinity in the year 1851. We see how the disease may have been introduced into our town, but it is difficult to trace a connecting link between the cases that occurred. This year the season was remarkably dry, and the water in our wells became low. If limestone water is capable of producing the disease—as many suppose—we ought to have had cholera this summer in its most malignant form.

About the first of July, dysentery began to prevail a few miles south of Aurora, and continued in the neighborhood for nearly two months. It appeared to a certain extent contagious, attacking in succession the different members of a family. The nurses who came from a distance were attacked—one young man, who went from Wilmington to assist the sick, was attacked and died. There was nothing in the locality that could produce the disease; it was prevailing upon one of the healthiest highland ridges in the country. It appeared to me to have been introduced into the neighborhood. On the 30th of June, a young man, shortly after his return from Cincinnati, had a severe attack of diarrhea and occasional vomiting. I saw the case, and thought at the time it was cholera diarrhea; he soon recovered. In a few days after, other members of the family at which he was residing, were attacked with mild dysentery. The disease then spread as a dysentery amongst the neighbors who visited here, and in several cases assumed a very malignant form.

In 1852, the first cases of cholera we had in this section of the country were in Manchester township. A man who resided a few miles from Lawrenceburgh, shortly after his return from Cincinnati, had a severe attack of cholera morbus. One of the attending physicians informed me, that it presented very much the appearance of cholera. Seven days afterwards, his mother, who had been attending him, and had gone on a visit to her son-in-law's, about five miles distant from where the first case occurred, was suddenly attacked with cholera and died. The next day her son-in-law, and his son, a lad about 13 years of age, were both attacked and died. The day following two small children in the same family were severely attacked, but gradually recovered. A large number of the neighbors were in attendance on the sick, and with the exception of a few cases of diarrhea which occurred shortly after, there was no other sickness, and these were the only cases of cholera I could hear of in the county. On the 29th of June, Mr. C. C. Kelsey, one of our citizens, came up the river; he had had diarrhea for several days previous to his arrival at Aurora. Soon after his return he became suddenly worse. The discharges from the bowels were of the rice water character; he had severe cramps of the extremities; his skin was clammy; his eyes were sunken, with a dark circle around them. I considered this a well-marked case of cholera, and mentioned it to our physicians. He gradually recovered. On the 5th of July, an old man by the name of Fickiss, who resided in the outskirts of the town, while working in the harvest-field was suddenly attacked about noon

with cholera, and died that evening. Three days after, his daughter was attacked with the disease and died. On the Monday following, the man who was at work with him in the field was also attacked with the disease and died; he resided in another part of the town. Two days after, a young woman who attended the funeral of the old man, was attacked and died. The week following, two children in the same neighborhood—one of them the second house from where Fickiss lived—died with symptoms of cholera; and there were several cases of diarrhea in this part of the town. The neighbors generally avoided the disease, and but few persons saw these cases. There were no other cases of cholera that I could hear of, at this time, in the county. Fickiss had not been away from Aurora—and the question may be asked, did the disease in this case arise spontaneously? There was nothing in the locality that I could discover that would favor the development of the disease. I may here mention, that while I was attending Mr. Kelsey, I left him for a short time to visit a patient in the lower part of the town. This man Fickiss came to the house where I was; he complained of soreness in his breast which he had had for several years, and desired me to examine his lungs, which I did. Not having my stethoscope with me, I applied my ear and percussed his chest, but could not detect any disease of the lungs, and considered the disease neuralgic. As he was attacked a few days after, is it probable that he was peculiarly susceptible to cholera, and I communicated it by carrying the infection in my clothing? On the 3d day of September, an old citizen three days after his return from Cincinnati, was attacked with cholera and died. A large number of our citizens were in attendance, but there were no other deaths. One of his neighbors had a severe attack of diarrhea, and another the cholera morbus, within a week afterwards. On the 9th of September, one of the deck hands on the packet boat that runs between Aurora and Cincinnati, was attacked with cholera. I was sent for, and found him in the collapsed stage of the disease. He gradually recovered, however, after about ten days' illness. This case, unlike the last, appeared to give rise to several others, for at the house where he was taken to, within a week after his recovery, a child was attacked with cholera and died. A few days afterwards, in a house directly back of this one, about twenty yards distant, an old woman and child both died with cholera on the same day. About the first of October, a number of foreigners came to work on the Ohio & Mississippi Railroad—most of them were from the neighborhood of Rochester and Buffalo, N. Y., where the cholera was at that time

prevailing as an epidemic. One of these men, I was informed, was attacked with cholera shortly after his arrival, and died after a few days' illness. There were eight persons residing in the house where this man died, but none of them had the disease. On the 30th of September, another Irishman, shortly after his arrival from Rochester, was attacked with cholera and died. In three days afterwards another man at the same house was attacked, and he also died: The next day another foreigner who resided in the same street, about two hundred yards distant, died. The day following, Oct. 4th, one of the old inhabitants died from cholera; she resided in the next house south of the one where the first case occurred, about thirty yards distant, but had not seen any of the cases. In four days after, on the opposite side of the street from the house at which this last death occurred, a little girl died from cholera. An Irishman, who was superintendent on the Lawrenceburgh & Greensburgh Railroad, a few miles above Lawrenceburgh, lost three of his men from cholera. Feeling unwell himself, he returned to his family, who resided in Aurora. The next day, Oct. 9th, he was attacked with vomiting, and cramps of the extremities, but had no diarrhea—he recovered. I was not certain at the time whether this man was laboring under cholera; but as he had been with the disease a day or so before, I thought it probable he was under its influence. In less than a week from this man's illness, five of his relations, who resided in the adjoining house, were attacked with cholera, three of whom died. These were the only cases in this part of the town; and it is a singular coincidence that it should appear in these families immediately after this man's return, if he did not communicate the disease. On the 3d of November, a relative of the woman who died on the 4th of October, was attacked with cholera, and died after about six days' illness. A few days after his death, his wife and three of the children, also an old lady who resided at the same house, were attacked with diarrhea—the wife with cholera morbus; they all recovered. In the same part of the town, another man was attacked with cholera, and died after four days' illness. On the 13th of December, five weeks after, his wife was attacked with diarrhea, vomiting, and cramps of the extremities—she recovered. I may here remark, that there was nothing in the localities in which any of these cases occurred, that would be more likely to produce the disease than in other parts of the town. These are all the deaths from cholera, and well marked cases of the disease, that occurred in Aurora this year. There were many cases of diarrhea and cholera morbus; but as it is so difficult to distinguish be-

tween the common disease of our country and cholera, in the form of diarrhea or cholera, I have only occasionally alluded to them. Among the foreigners at work on the Ohio & Mississippi Railroad, there were a number of deaths from cholera during the fall; also on the Lawrenceburgh & Indianapolis Railroad. As these cases occurred some seven or eight miles from Aurora, I have not been able to learn the particulars or the exact number of deaths. I have thus endeavored, as far as my own observation has extended, to minutely give in detail all the indisputable cases of cholera in the order in which they occurred at Aurora and in the surrounding country since 1849, showing the connection between the cases when a connection appeared to exist, and presenting also the isolated cases. I have thus been minute, for the correctness of our conclusions in reference to the progress of the disease through the country must depend upon the accuracy of our observations.

The course of treatment which I generally adopted, was, when called to treat the disease during the form of diarrhea, (if there was no evidence of irritating substances in the stomach,) I gave opium, catechu, camphor, capsicum, and calomel, variously combined, to meet the indications. I make it a rule to repeat the dose after each evacuation, lessening the quantity of opium, or omitting it altogether, when there is danger of producing narcosis. If the disease was obstinate, I gave large doses of tannin in combination with small doses of calomel, and tannin injections. These remedies, with perfect quietude, and sinapisms to the abdomen, nearly always arrested the diarrhea at once. When the attack commenced with vomiting and purging, and I saw the case early, I generally gave an emetic of salt and mustard, after which I gave opiates, calomel, astringents, stimulants, and chloroform, as symptoms seemed to require. If symptoms of collapse became manifest, I gave ammonia, sulphuric ether, spirits of camphor, or brandy and water; also ordered the astringent injections after each operation, at the same time operated upon the surface of the body by heat, friction, and irritation—such as the application of bottles of warm water, bags of warm sand or ashes, and friction with the bare hand, dry salt or a coarse towel, or irritated the skin with sinapisms, or rubbed it with mustard or cayenne pepper; if there was profuse perspiration, I had the surface of the body rubbed with tannin. In some cases I gave calomel in large doses, but I thought it did harm by increasing the diarrhea; but calomel often repeated in small doses, from two to five grains, in combination with opium and astringents, seemed in many instances to have the best

effect. Whenever I could procure black bilious discharges from the bowels, my patient was generally safe. Opium was one of our most valuable remedies ; but I saw several cases where I have no doubt it had been given too freely, and produced congestion of the brain. Bleeding was tried in a few instances, but with no good effects ; creosote and quinine were also tried, but without any satisfactory results. Dr. Haines, of this place, tried large doses of spirits of turpentine, but it did not appear to have the least influence over the disease. Large doses of capsicum, camphor, and calomel, combined, were tried, but without any beneficial effects—in several instances where the patient did not die from collapse, the capsicum seemed to produce inflammation of the stomach, which was ultimately the cause of death. The worst case of cholera that recovered in Aurora was one of our tavern-keepers, who refused to take any medicine whatever. A large dose of tannin was given him, however, by one of our citizens, without his knowledge, in a glass of brandy and water. This man had a bucket of water placed by his bed-side, and drank brandy and water freely. He gradually recovered from apparently the lowest stage of collapse. The worst cases that recovered were permitted to drink freely of brandy and water. The desire for water appears like an instinctive effort of nature to supply the loss of serum which pours from the patient like a passive hemorrhage. I may here remark, that I think we cannot be too cautious in administering cathartics in the treatment of cholera. Several citizens of Aurora lost their lives by taking purgatives, while unwell with slight derangement of the bowels, during the prevalence of the disease at this place ; at least the cathartic seemed to act as an exciting cause in bringing on the attack. As one of the most important indications in the treatment of cholera is to arrest the diarrhea as soon as possible, I have found no medicine so uniformly successful in accomplishing this object as tannin. It is, as is well known, one of the purest and most powerful astringents we possess, and generally agrees well with the stomach. I have given it in large doses, frequently repeated, from ten to fifteen grains, until more than one hundred grains had been given in a few hours, without seeing any bad effect from it, and found it to succeed in arresting the diarrhea, when other powerful astringents had failed. I was called in consultation with Dr. Ebersol, of Wilmington, to see a young lawyer of that place who was severely attacked with cholera. All the usual remedies had been given, commencing with large doses of capsicum, camphor, and calomel ; then opium, calomel, and stimulants, without any good effect.

Tannin was recommended in large doses, to be given until the diarrhea was arrested, without regard to quantity; it was given with diffusible stimulants, also in the form of enema, and the doctor informs me that more than half an ounce was administered. The discharges from the bowels were arrested, and the patient got well. I saw a case last summer, where all the usual remedies had been resorted to, without the desired effect. The tannin and tannin injections were again recommended and tried, and the disease was arrested at once. But I have seen this course of treatment fail, although the large doses of tannin would check the diarrhea, still the pulse would become more and more feeble, the skin grow dark, and the system sink as rapidly apparently as if the diarrhea had not been arrested.

Dr. Bowles, of Harrison, formed a favorable opinion of Stevens' saline treatment, although the cases in which this treatment was tried were few and of a doubtful character; still it was attended with good effect.

I cannot see how the cold dash, recommended by some, or cold applications to the surface, can be of any benefit in the treatment of the disease. Reaction cannot take place when the blood has become almost too thick to circulate. Sir B. Brodie, on the operation of poisons, makes some remarks which I think are peculiarly applicable to the treatment of Cholera, and shows the importance of maintaining the temperature of the body in as near a natural condition as possible. He says "that in the restoration of an animal from poison, it is necessary it should be kept in a temperature of not less than eighty-five or ninety degrees of heat of Fahrenheit's thermometer. This last precaution is, of course, a matter of greater importance when the animal is of a small size (as in the case of a cat or a rabbit) than where it is of larger; still it is not to be neglected even in the case of the human subject, otherwise the animal heat gradually diminishes until it reaches that point at which the action of the heart can no longer be maintained, when we have the singular result of an animal perishing from cold in the ordinary temperature of the atmosphere. I have not myself known the circulation to continue where the temperature of the interior of the thorax has been below seventy-eight degrees of Fahrenheit; but an experiment is stated by Dr. Chorsat, in which it had fallen still lower."

The rapid sinking of temperature in Cholera, indicates remedies to maintain the animal heat, as much so as in worst cases of poisoning. I would here remark, that having had an extensive experience in the treatment of Cholera, and tried a great variety of remedies, I have no confidence in any course

of treatment which I am acquainted with, in arresting the progress of the disease after the circulation begins to fail ; but treated at the commencement of the attack, if it commences in the form of a diarrhœa, it appears to be, in a very large majority of cases, perfectly under the control of medicine.

Dearborn county has suffered severely from Cholera. It has prevailed in every township ; but in Centre, Sparta, Kelso, York, and Jackson, it has assumed its most malignant form. Dr. Ashbaugh, who attended the Cholera in Sparta township, writes me that Cholera first made its appearance in that part of the county on June 14, 1849. It was introduced by a Mr. Blanger, who had just returned from Cincinnati, where he had the day before buried his father and brother who had died of Cholera. The day after his return he had diarrhœa ; the next day he was attacked with Cholera and died after 4 hours illness. The next day the man who attended him was attacked. The day following, a woman residing in the same house was also attacked. Three days afterwards, another man residing in the same house was attacked and died. The Doctor writes that another "starting point" was from a man who was brought into the neighborhood from Aurora, unwell with Cholera. A few days afterwards (July 7) a young woman who attended him was attacked. On July 11th, another one of the family was attacked. The day following, also another of the family was attacked ; on the 14th another, on the 15th two more, on the 17th another, also another on the 18th, making seven cases of Cholera, and four deaths, occurring in a family of eight persons.— Another point from which the disease seemed to emanate the Doctor says was in a family who lived in a retired place. The father of the family returned from St. Louis, on the 24th of June. He came up the river on a boat on which there were some 15 deaths from cholera. The day after he returned, he was attacked with cholera and died. The day following, his daughter was attacked ; on the 28th, the man who assisted in laying out the old gentleman, took the cholera and died ; the same day this man was buried, his wife was attacked. The disease then spread through the neighborhood ; people were continually arriving from Aurora, unwell with the cholera, and it became difficult, the Doctor says, to trace the connection between the cases that occurred. The Doctor mentions one instance where the disease appeared to be communicated by bed clothes. He was attacked himself with symptoms of cholera. The remedies which he employed in the treatment of the disease, were Calomel, Opium, Capsicum, Camphor and Astringents.

Dr. Brower, of Lawrenceburgh, writes me, that there has not been many cases of cholera at that place. He states "that it is an indisputable fact, that the population residing upon our alluvial formation have, during every visitation of cholera, enjoyed a remarkable exemption from its ravages;" and I can call to recollection no cases occurring in such localities, which were not connected with great neglect of personal cleanliness or impurities in or around the dwellings; this immunity extends, also, to its congener epidemic, Dysentery, nine cases out of ten of which occurred in the dry elevated ridges or on slopes or side hills, where the lime-stone substratum was seen frequently cropping out; nearly all the cases of cholera and most of those of Epidemic Dysentery, in this vicinity, were found upon the most elevated plateaus, or in the adjacent valleys fed by small streams."

"As to its treatment, my principal reliance was upon a combination of calomel, capsicum, and camphor, in moderate and frequently repeated doses, absolute rest in a horizontal position, dry friction, chloroform lotion to the spinal column, frequent draughts of ice water, and occasionally an emetic of mustard or salt. The result of any mode of treatment, however, in advanced cases, were by no means satisfactory, and even in those who partially recovered from its first onset a large proportion eventually died from consecutive congestion of some important organ, so that the proportion of absolute recoveries was extremely small."

Dr. Harding of Lawrenceburgh, sends me a list of 24 cases which came within his knowledge, at that town, in the year 1849. He states, "the first case died in 20 hours after attacked. The second treated with large doses of calomel died of consecutive fever; the 3d treated homœopathically, died in 24 hours; the fifth and sixth died in 24 hours; the seventh died without treatment (refusing to take medicine) in twelve hours. The four next were all in one family; two died, one in 12, and the other in 20 hours, the other recovered; the 12th and 13th died in 20 hours, 14th and 15th died in 12 hours; one contracted the disease in Cincinnati, the other in Aurora; 16th and 17th, both intemperate, died without treatment in 12 and 24 hours; the 18th contracted the disease in Cincinnati and died in 11 hours; 19th contracted the disease from the last case, and died in 12 hours; 20th died in 14 hours, 21st in 8 hours, 22d in 12 hours, 23d and 24 recovered." The Doctor says "that in the above list none are included which had not actually passed into the collapsed stage of the disease. Scores of cases of diarrhœa were occurring in the meantime

which undoubtedly would have passed into cholera but for the timely intervention of remedies.

“In 1850, we had but few cases ; perhaps some 10 or 15, and those mostly among strangers or persons who had been from home. But we had instead, an Epidemic Dysentary, in a very malignant form, especially on the ridges between Hogan and Tanner’s Creek, and Tanner’s Creek and White Water.

“In 1851 and 1852, we had occasional cases of cholera, generally occurring amongst persons who had been traveling on the river, or through districts where cholera was prevailing; not invariably so, however, and scarcely extending beyond the individual case, showing the absence of predisposing cause, as existed in 1849 and 1850.

“In October, 1852, I saw seven cases, the only ones I encountered that year. William Mattock had just returned from Ohio ; he was attacked with diarrhea in the evening, and died in about twenty hours—no other cases occurred in his family, or among his attendants. About the same time, a German family arrived via New Orleans, having traveled on deck of a steamboat. The son was attacked two or three days after their arrival—he recovered ; his mother, after attending him three or four days, was attacked, and died of consecutive fever ; two days later, her niece, who had waited on her, took the disease and died in twelve hours. The sister of the first named young man had it, but recovered. Lastly, the two children belonging to the niece were attacked—one died in ten hours, the other recovered in a few days.”

Dr. Hughs, of Harrison, Dearborn County, writes me that he saw much of cholera, or cholera diarrhea, in 1849 and 1851, in Miller and Logan townships ; the disease was generally mild, however, and easily managed. He depended in the treatment of the disease upon astringents, in combination with stimulants, anodynes, and calomel, variously combined to meet the indications.

FRANKLIN COUNTY.

Dr. Haymond, of Brookville, in this county, informs me that in 1849 and 1850, cholera prevailed to a considerable extent in that town. In 1849, the disease appeared about the 4th of July, and disappeared about the 7th of August. The first person attacked in 1849, he informs me was a German boy who had not been absent from Brookville. The disease appeared to arise spontaneously, and was principally confined to the German population. But he informs me that in 1850, cholera had the appearance of having been introduced into that place

from Cincinnati. The particulars he did not write me. He thinks that wet and warm weather favored its progress, but that healthy or unhealthy localities had no influence over the disease—neither had age or sex, but its violence was increased by intemperance. He states also that all died without exception, who were not treated until the pulse began to fail ; and every one recovered when treatment commenced during the diarrheal stage. The remedies which he found most successful were calomel, camphor, capsicum, and sulphate of morphia, variously combined to meet the indications. Mr. J. Backman, of Aurora, informs me that after the disappearance of cholera at Brookville in 1849, dysentery made its appearance at that place, and prevailed to an alarming extent.

Dr. J. H. Quick, of Cedar Grove, informs me that in 1852 cholera made its appearance in that part of the county. The first case occurred July 15, and cases continued occasionally to occur for upwards of three weeks. The disease principally prevailed amongst the German population, and was entirely confined to the uplands, not a single case appearing on the river bottoms. He could not discover that unhealthy localities had any influence upon the disease. It was principally confined to adults, and both sexes were about equally susceptible to the disease. About half the cases terminated fatally. The remedies which he found most successful, were opium, calomel, hyd. cum. creta, camphor, cayenne, and French brandy.

RIPLEY COUNTY.

In this county, cholera prevailed during the summer of 1849. While the disease was prevailing at Aurora, a number of citizens went to Napoleon, a little village in Ripley county, containing about 250 inhabitants. Here the disease soon made its appearance, and assumed its most malignant form. There were amongst the inhabitants of the town and its immediate vicinity, between twenty and thirty deaths. A tavern-keeper and his hostler, in Napoleon, both died. One of the physicians was severely attacked, and his wife died during his illness. Near Versailles, cholera also made its appearance. A man by the name of Ireland, who resided a few miles east of Versailles, visited Aurora at the time cholera was prevailing in this place, on the 6th of July, 1849. The day after his return home, he was attacked with cholera and died. The day following, another one of the family was attacked and died ; and cases continued daily to occur until nine of the family died. Several of the neighbors were attacked ; and one who had been in attendance on this family died. About this time dysentery began to prevail in this part

of the county, and in many instances assumed a very malignant form.

OHIO COUNTY.

Dr. D. H. Jessup, of Rising Sun, writes me that cholera made its appearance at that place on the 30th of May, 1849. He states "there had been some predisposition to bowel affections, and a few cases of vomiting and purging of rather a violent character. But the first well marked case occurred at this date; it was in town, and the subject was an old man who had been for many years addicted to the use of ardent spirits. The disease in this case originated here, this man not having been from home, or in any manner exposed to the disease as occurring in other subjects. It ought to be mentioned that he had eaten freely of green peas, and other similar food, the day previous to his attack. This case was well marked, and a very violent one, and proceeded rapidly to a fatal termination. No precautions were used to prevent the spread of the disease by contagion; yet no other cases occurred in town for weeks—showing, so far as this single case is concerned, the disease neither originated from contagion, or spread itself by this means, even under circumstances the most favorable. The disease showed itself again in the latter part of June, on the opposite side of the river, in Kentucky. This case also originated spontaneously—that is, there had been no communication or intercourse with infected persons or places. This was a malignant case, and, like the first, proved fatal, though not quite so rapidly. As is customary in the country, a large number of friends and relations were constantly present, and assisted in taking care of the sick man. Shortly after they had dispersed to their homes, in various and distant parts, several of them were attacked simultaneously with the disease, part of whom died. In this case, like the first, the disease seemed to originate spontaneously, but unlike it, seemed to spread by contagion." The Doctor also remarks—"That in regard to the contagious or non-contagious nature of the disease, I am satisfied in my own mind of its contagiousness. It is not necessary, to establish this view, that it should prove contagious in every case and under all circumstances. This is more than is required, and more than can be shown of any other disease, the contagiousness of which is admitted. Neither is it necessary to prove that it is contagious to the same degree of other diseases, as it may readily be conceived that one disease may be more eminently contagious than another. I am not prepared to say, that a case of cholera occurring in a region where there is no

general choleric influence, will be as likely to effect those exposed to it, as if it had occurred in a region where that influence was prevailing. Neither do I believe the general mode of its spread or propagation is by contagion, in the common sense, from person to person, as whole towns and communities may be affected simultaneously, as was witnessed at Maysville and many other places—thus precluding the idea of contagion in those cases. Still I am inclined to the opinion, that in very many cases intercourse with those affected is the exciting cause of an attack. When we see friends and relatives, who have attended the sickness and burial of a cholera patient, after leaving the place, simultaneously attacked with the disease, in preference to their neighbors; and more particularly when we see persons leaving infected regions and going to regions where the disease is not prevailing, attacked with the disease contracted before leaving, and then in turn see those who attended them attacked, instead of those who kept away, we are apt to conclude there is an element in the disease very nearly akin to contagion. I think I have seen too many such examples to regard them as mere coincidences.”

The Doctor writes—“The disease prevailed to a considerable extent during the months of July and August, and to a greater extent on the Kentucky than on this side of the river. It reappeared again the following summer; but there were fewer cases, and the proportion of deaths smaller. The summer and autumn of 1851 and 1852 were characterized by the general prevalence of dysentery. There was no sudden disappearance of cholera, or sudden appearance of dysentery. There were some cases of dysentery the last season of cholera, and some cases of cholera the first season of dysentery; but, speaking in general terms, the cholera seemed to merge itself into dysentery, and as the former receded, the latter advanced and took its place. Our city suffered less than the surrounding country. In fact there were few well marked cases in the town, and of these few cases some originated abroad, so that the number of undoubted cases of cholera arising in Rising Sun is quite small. Of the cases that occurred in town, the proportion of deaths was less than in the country. This fact may be owing in part, at least, to the circumstance that medical advice was obtained earlier in town than in the country. Many cases that passed as ordinary diarrhea in town, would probably have run into cholera had the patient lived in the country. In town, the fatal cases were probably 10 per cent, and in the country 20 per cent, of the number attacked. Another reason why persons in town suffered less than those

exposed to the disease in the country, is the fact that they were more cautious in indulging in those articles of food that are known to have a tendency to provoke intestinal irritation, such as crude and unripe fruits and vegetables. The water used in town is rain or soft water, and that used in the country generally well or spring water, impregnated of course more or less with lime.

“I am not aware of any general cause, or causes, that favored the progress of the disease—such as atmospheric changes, healthy or unhealthy localities, &c. I did not observe that age or sex exerted any exemption or modifying influence over the disease. Habits of life unquestionably had a great influence both in predisposing to attacks, as well as in exciting them. Many cases were undoubtedly brought on by the use of green vegetables and fruits, and amongst the most pernicious of these I rank new potatoes. I have known pieces of potatoes and peas pass the bowels with each serous discharge until the patient died. Those who were exposed to severe bodily labor during the harvest, when the weather was hot, were many of them attacked with cholera symptoms.

“In regard to treatment, I have but little to say. In the early stages of the disease, I generally relied on a combination of opiates and mercurials, sometimes with the addition of camphor or aromatic chalk powder. In the large majority of cases, these remedies, with perhaps an opiate suppository or starch and laudanum enema, proved sufficient for the arrest of the disease. When they failed, and the case still progressed, I was generally about as successful with one plan of treatment as another. I tried Dr. Ayer’s plan in a few cases, part of which recovered and part died. As to particular medicines, I placed more reliance on opium, acetate of lead, and calomel, than any other articles, though I frequently used others. The main indications I kept in view, were to allay intestinal irritation, restrain the serous discharge, and alter the secretory action. The indications seemed to point to the use of opiates, astringents, and mercurials.”

SWITZERLAND COUNTY.

In this county, there were a few cases of cholera in 1849. Mr. Joseph Pierson, who resided in this county during the prevalence of cholera, writes me that there were only three deaths from cholera at Vevay that year. They were persons left there by steamboats. He also informs me that during the months of July and August, 1850, there were twenty-eight deaths from the disease at Mt. Sterling, a little village a few miles north of Vevay. There were a few other cases also in

the county. He states that the first appearance of the disease was amongst persons who had been abroad, and were laboring under its influence when they returned. The cholera at Mt. Sterling was not confined alone to persons of intemperate habits. "Both sexes were equally susceptible to the disease. While the cholera was prevailing at this place, the weather was unusually sultry." He also states "that at Mt. Sterling, nearly all the cases proved fatal."

JEFFERSON COUNTY.

From this county, Dr. Cogley, of Madison, writes me that cholera made its appearance in that city, on February 14, 1849. On that day there were seven deaths. It immediately subsided, but returned again during the summer, and prevailed as an epidemic. Of the number of deaths or cases he did not inform me. Each summer since 1849, sporadic cases of cholera have occurred; last summer, he writes, there were but few. He thinks the disease arose spontaneously, and the remote cause, whatever it may be, exists in the atmosphere. He thinks that poverty and personal filth favored its progress; but he thinks it doubtful whether healthy or unhealthy localities had any influence over the epidemic. He believes that cholera is influenced by atmospheric changes; he writes, "that it invariably prevailed most in wet weather, and gradually subsided when the atmosphere cleared, and became almost extinct when the weather was settled and fine." He says, in reference to its mortality, that when the disease passed into a collapse, scarcely one in twenty recovered; but when it was treated early, there was not more than one in twenty that terminated fatally. In the treatment of the disease, he generally gave at first an emetic, composed of three grains of sulphate of zinc in combination with ipecacuanha; after its operation, he generally depended upon calomel, opium, acetate of lead, camphor, piperine, soda powders, ice water, &c., and administered these remedies as symptoms required, at the same time applying sinapisms to the stomach and warm applications to the extremities, and keeping the patient in the horizontal position.

Dr. Rodgers, from Madison, also writes me that the disease began to prevail as an epidemic in June, 1849, and entirely disappeared in September. The disease appeared to arise spontaneously, and that east winds, cold nights, and malarious localities favored its progress. He considered the disease generally manageable when treated early. The principal remedy he depended upon was calomel in large doses.

JENNINGS COUNTY.

Dr. J. C. Burt, of Vernon, writes me—"That there were in all about fifty fatal cases in this county—forty or more in the summer of 1849, and seven last winter. In 1849, it prevailed in three different localities, each about twelve miles distant from the other. In each of these the first cases were persons who came from places where cholera was prevailing, and had, I think, in every instance waited personally upon persons who had died of the disease. The nurses and attendants of these persons were those next attacked; and precisely in this way did the disease progress until the epidemic terminated. In every instance the persons attacked had been placed in a situation to inhale the emanations of those personally attacked, either by personally attending upon the sick, or by sitting up with the corpse, or by washing the garments or bed-clothes of those who had died.

"Scattered as these cholera localities were in different parts of the county, it would be quite a task to go into a statistical detail of names, ages, periods of the duration of the disease, &c., all of which can be had if necessary. I have repeatedly conversed with the practitioners of the county whose field of practice embraced these localities, and every one will corroborate the statements I have made.

"The length of time which the epidemic lasted, last winter, was so brief, and the cases so few in number, I will give the history in detail. On the night of the 30th of November, a stranger from off the Ohio river, stopped all night at the house of Lanahan, an Irishman, living in the town of Vernon. In the night he had an attack of diarrhea, but was able the next morning to travel, and went off and was not heard of afterwards. In the afternoon of the next day, a child of Lanahan's, ten years old, took the cholera, and died in twelve hours. In three days afterwards, Lanahan's wife took the disease, and died after two or three days' illness. On the 7th of December, three men—Burk, Dougherty, and Ford—all of whom had attended the wake of Mrs. Lanahan, were attacked and died in a short time. On the 9th, Sally, who had waited upon Ford, was attacked, and lived about twelve hours. The next and last case was McManamie, who had visited Sally; he was attacked shortly after, and died after three days' illness." The Doctor concludes his letter by saying—"As to the bare question, is cholera a contagious disease? I don't see how any person who has been in the least observant of its history and progress here in the west, can give any other than an affirmative answer."

Dr. P. Hill, of Madison, writes me that the principal remedies used in the treatment of cholera at Vernon, were calomel, opium, camphor, and capsicum.

BARTHOLOMEW COUNTY.

Dr. J. W. Conway, of Taylorsville, writes me that cholera prevailed in that county to some extent in 1849, 1850, and there were a few cases in 1851. He says—"Not being in the county at that time, I am unprepared to give statistics."

DECATUR COUNTY.

In this county there has been but few cases of cholera. Dr. G. W. New, of Greensburgh, writes me there has not been a case since 1849. Dr. G. W. Moody, of Greensburgh, informs me that in September, 1849, there occurred five or six cases resembling cholera at that town, two of which proved fatal. The first case was a gentleman who was attacked the day after his return from Cincinnati, where the cholera was at that time prevailing. He treated the disease with camphor, capsicum, and calomel.

SHELBY COUNTY.

Dr. Milton Robins, of Shelbyville, informs me, "that cholera made its appearance in that town on the 10th of July, 1850, and remained about three weeks." He writes—"the first case was a traveler from Cincinnati at one of our hotels; he recovered so as to leave for home. A day or two afterwards, the landlord took the disease, and recovered. Immediately after his recovery, three others in the family were attacked and died. Across the street from the tavern, two others took the disease and died. Some persons from a distant part of the town were with them, who immediately contracted the disease and died. After this it seemed to go without any regard to contagion; yet it was principally confined to one part of the village. After the first few cases, immediate contact with the sick seemed to have no effect in spreading the disease. During the prevalence of the epidemic, all our citizens were affected with diarrhea, or a rumbling and pain in their bowels, with loss of appetite and sickness at the stomach. It is said all the birds left the village during the prevalence of the epidemic. Several conies, pet squirrels, and dogs died while the disease was prevailing. The dogs vomited like their masters.

"It is difficult to say what proportion of cases recovered after urgent symptoms occurred. Yet some of our physicians could count their fifties, or almost hundreds of cures; while others, equally as intelligent, thought that treatment after true

cholera made its appearance, had but little effect in abating the mortality. The stimulating plan of treatment was most popular—consisting of brandy, capsicum, camphor, essential oils, ether, &c., with sinapisms to the stomach, back, and extremities. The mortality was between fifteen and twenty. The next season dysentery prevailed in Shelbyville, and was more fatal than the cholera. It, like the cholera, was confined to certain parts of the town, although the localities attacked were not considered the most unhealthy.” The Doctor thinks that neither changes in the atmosphere, habits of life, age, sex, or locality, had any influence over the disease.

RUSH COUNTY.

Dr. John Moffett, of Rushville, informs me that there has been but few cases of cholera at that town. In 1851, there were three deaths from this disease; they occurred in the family of a man who had returned a few days previous from off the river, and it was supposed that he introduced the disease into the place. The Doctor thinks, however, that the evidence that such was the fact, is by no means conclusive. He informs me that diarrhea has prevailed to a considerable extent in that town and neighborhood since the appearance of cholera in the country.

UNION COUNTY.

Dr. A. B. Casterline, of Liberty, writes to me “that cholera prevailed in that town and county, in 1849, during the months of July and August, and not since then. The disease appeared spontaneously. The causes which favored its progress were want of cleanliness, and permitting the decay of animal and vegetable matter within the locality in which the disease was prevailing. Its influence was felt in nearly all parts of the county, there being a predisposition to diarrhea and dysentery.”

He states, “that when the intemperate were attacked, it was nearly always fatal. It occurred mostly among persons of middle ages, both sexes were equally attacked.” He says, “that when the atmosphere was warm, dry and sultry, then, and with that condition of the atmosphere, the disease progressed most rapidly; but, on the other hand, a cool and gentle breeze had the contrary effect.” In reference to the number of deaths in proportion to the number of cases, he thinks there were about fifteen out of two hundred. He says the remedies employed were tonics, stimulants, antispasmodics, and narcotics, in combination; also warm external applications, par-

ticularly to the lower extremities, "and in some cases it was necessary to resort to alteratives, calomel being the best.

WAYNE COUNTY.

Dr. John T. Plummer, of Richmond, informs me that cholera appeared at that place in 1833, 1834, and 1849, as an epidemic, and they have had sporadic cases in subsequent years. He writes, "our town population is about three thousand. We are situated on an anticlinal axis of Trenton limestone, among the head waters of the White Water river. He states that in 1849, it seemed to have been brought into Richmond by physicians who visited patients at Boston, six miles south of us." He thinks "that fear and filth were causes that favored the progress of the disease, although families the most cleanly in their habits were often attacked. It was also probably aggravated by low, damp situations; but the healthiest places were by no means exempt from the disease. The temperate and intemperate, all ages and both sexes, were indiscriminately attacked." He also writes that he had not been able to discover that any unusual condition of the atmosphere had more influence over this than other diseases. In the treatment of the disease he states, "of those prescribed for early, not more than one-tenth died; of the collapsed cases about one-half recovered." The remedies which he depended upon "were calomel and Dover's powder, with perfect quietude where practicable." These, the Doctor says, "were unquestionably efficient means."

Dr. V. Kersey writes to me that at Milton, in this county, there were no cases of cholera.

HENRY COUNTY.

I have been informed by Dr. Joel Reed, of New Castle, that cholera prevailed in that county in 1833, and continued about two months, July and August. He writes, that the disease was brought into the county, and in every instance could be traced to an exposure, to some one laboring under the malady. He says that at that time there were 40 cases, and 13 deaths. He does not write whether the disease has ever prevailed in that county since; by his silence we infer not.

GRANT COUNTY.

Dr. Lomax, of Marion, informs me that in July 1849, diarrhea and cholera morbus prevailed in that county to a considerable extent. The epidemic was generally mild, but in two localities it assumed a more malignant form, and there were

some five or six deaths in each ; the patients dying with symptoms resembling cholera. He also states that the disease in these localities appeared as if communicated from one individual to another.

ALLEN COUNTY.

From this county I received information from Dr. B. S. Woodworth, of Fort Wayne, he informs me that cholera prevailed in that city and in the surrounding country, during the summer and fall of 1852. He states that the first case that occurred at Fort Wayne "was a German who went to meet his brother, who was emigrating to this part of the country. The brother died of cholera on the canal boat between Toledo and this place. The next day after the German returned home, he was attacked with cholera and died. On the following day a girl about 10 or 12 years of age in the same house died with the disease. On the next day a German boy aged 10 years, living two squares from the house where it first appeared, was attacked and died in 10 or 12 hours illness. The first case occurred on the 25th of July. There were no other cases until the 9th of August, when it broke out in a row of old, damp, filthy, dilapidated buildings, occupied by French and German families, most of these recent emigrants. Some 10 or 12 died at these buildings in the course of a week. From the 9th to the 15th of September there were a few cases almost every day in various parts of the town. After the 15th of September there was but one case in town, this was on the 28th. As to whether the disease was introduced, or appeared spontaneously amongst us, it is difficult to say. There was a great predisposition to the disease in the community, for several weeks previous to its appearance, diarrhea and dysentery being unusually prevalent, besides solitary cases occurred in the county in various directions where there had been no exposure to contagion." "The principal predisposing cause seemed to be unacclimation—previous ill-health—filthy habits—living in low, damp, unventilated dwellings—fear, &c. The principal exciting causes were intemperance, in eating and drinking—living on unwholesome or insufficient diet, and especially overloading the stomach with crude, indigestible vegetables; as to locality, it appeared almost exclusively in the lowest and dampest places in the town, in houses having wet cellars or stagnant water under them. Want of elevation seemed to have a great effect in favoring its progress, neither age or sex had any influence over the disease, but the intemperate were especially liable to be attacked. Atmospheric changes had a marked influence

upon the epidemic. A cool and humid atmosphere, succeeding a warm and dry one, was calculated to increase the disease. I noticed particularly that at the commencement of every North East rain storm, several of which we had during the prevalence of the epidemic—there was a great increase in the number of attacks and that it abated when the weather became clear and dry. The number of deaths in proportion to the number attacked, we cannot accurately nor even approximately specify, I may say that it was at least 3 out of 4—that is to say, that three-fourths of the number, who had what we called cholera, viz. vomiting, purging, and cramps died. Many had slight attacks, who recovered by abstinence, and a few doses of laudanum and camphor.”

“With regard to treatment, I have nothing new to offer. Mercury was given in one half the cases, but it seemed to have no influence upon the disease. Stimulants, opiates, and a host of mixtures that were freely given, only hastened the fatal result. The treatment which I found the most successful was very simple. I first put the patient into a warm bath of the temperature of 110 or 120 to bring about a reaction if possible, when the bath was practicable, if not I used all the external heat the patient could bear; such as bottles of hot water, sinapisms, dry frictions, &c., &c.. I gave ice to allay the irritability of the stomach and bowels, and some simple astringent, generally a vegetable one—such as tannic acid, catechu, kino. I preferred tannin. I sometimes gave acetate of lead; I also gave enema of the same. I carefully avoided stimulates and opiates, I have seen many cases where it was difficult to tell whether they died from the disease, or from congestion of the brain, produced by alcohol, or opium, or both. Quinine was given in several cases with apparently good effect.” The Doctor closes his letter by stating, that he is not fully convinced of the “contagiousness of cholera, or that it spreads by the communication of the infected, with the healthy.”

WABASH COUNTY.

Dr. S. G. Thompson, informs me there were no cases of cholera in this county.

FULTON COUNTY.

Dr. Charles Brackett, of Rochester, writes to me that the cases resembling cholera which occurred in this county, were sporadic. There were occasional cases of this character from the summer of 1849 until the fall of 1851. He says, “we had no deaths from this disease, and but very few cases that were not easily controlled by remedies as a general thing.”

CARROLL COUNTY.

Dr. H. W. Beck, of Delphi, informs me that there were several deaths from cholera in that town, in July 1849, the only cases that occurred in the county. The disease appeared to arise spontaneously, although he says that one of their citizens went to Lafayette 18 miles distant, during the prevalence of the cholera there. A few days after his return, a man living in the adjoining house to his, was attacked with the cholera, and died, and the disease prevailed in this family until there were seven deaths. The family attacked had not been away from Delphi, and the question may be asked, did the disease arise spontaneously, or was infection communicated by the man on his return from Lafayette? This man was not unwell. It should be borne in mind, that Delphi is on one of the principal thoroughfares leading from Lafayette, and the disease may have been communicated otherways.

BENTON COUNTY.

Dr. A. Hurd, of Oxford, informs me that cholera has not prevailed in this county.

TIPPECANOE COUNTY.

I received information from Dr. McFarland, of Lafayette, that cholera made its appearance in that city on the 3rd of July, 1849, and disappeared about the middle of September. He says, that the first case that occurred was a man who had just arrived from Louisville, Ky., where the disease was then prevailing, and the next case, and succeeding cases, were traceable to it. A damp atmosphere, in combination with a South west wind, seemed to increase and favor the malignancy of the disease. It was not influenced by locality. It prevailed upon the healthy and unhealthy localities alike; neither age or sex had any influence over the disease; but intemperate habits had a predisposing effect. About one-fifth of those attacked, died, and very few if any recovered who passed into the collapsed stage of the disease. In reference to the best mode of treatment, the Doctor says, "there was great diversity of opinion, and he could advance nothing new. The total number of deaths at Lafayette from cholera, were one hundred and thirty; but during the prevalence of cholera, and after it had subsided, dysentery and diarrhea prevailed as an epidemic, and from these diseases, in addition to those produced from cholera, there were over 300 deaths."

CLINTON COUNTY.

Dr. C. J. Miller, of Frankfort, writes that several deaths occurred from cholera in the vicinity of that town, in August,

1849. He says it was brought into the neighborhood from Lafayette, by a gentleman whose family took the disease and died. He states that the only cause which produced cholera in his neighborhood, was communication with the sick. Locality had no influence over the disease, that he could discover. The number of deaths to the number attacked, was about 4 out of 6. The principal remedies were camphor, opium, and capsicum.

MONTGOMERY COUNTY.

I have been informed by Dr. T. W. Florer of Alamo, that cholera has not prevailed in this county.

MADISON COUNTY.

From this county Dr. Clay Brown, of Anderson, writes me that "there has never been any cases of Asiatic cholera here; but during the summer of 1849, 1850, and 1851, an epidemic form of diarrhea and dysentery prevailed very extensively throughout the county."

MARION COUNTY.

Dr. W. R. Smith, of Cumberland, informs me that cholera made its appearance at that place on the 6th of August, 1850, and disappeared on the 24th of the same month. He writes that "the first case was a young Frenchman recently arrived. He had been at Indianapolis, and in communication with friends sick with cholera. He was attacked with diarrhea the evening of his return, I saw him the next evening, and found him in the collapsed stage of cholera. The next evening, the family where he was staying at, who were also French, re-recently arrived, ate a very hearty supper of meat and beans, and about two o'clock the following morning, two were attacked with diarrhea. I was not called until 10 o'clock, A. M., and both died, between 12 and 1 o'clock the same day; one was 45 years of age, the other his little son 8 years old. In this house, which was a small frame with two very small rooms, and badly ventilated, there were about twenty persons, all French; the whole of them eating and sleeping in this house. Nearly the whole number had cholera in its worst form. Besides these cases the French in the neighborhood, who visited and attended on the sick, were very generally attacked. The native portion of the community mostly escaped the disease. There were several cases amongst the Germans; but they had also communication with the sick. I saw no case of this disease that had not communication with cholera patients. One case, a German, although living entirely out of the infected neighborhood, visited and attended on his brother until he

died, and then helped to bury him—took the cholera the same night, and died before noon the next day. Dr. Edwards, of Palestine, came up to see some of my cases, the Doctor never having seen a case of Asiatic Cholera; he returned home, took the disease that night and died.” The Doctor says that locality appeared to have no influence over the disease; neither had age or sex. Atmospheric changes also appeared to have but little influence, for while the cholera was prevailing, the atmosphere was clear and dry, and the weather warm.

The Doctor also writes, “Having lost nearly 40 per cent of my cases of confirmed cholera, I do not know that it will be of much benefit to detail my treatment except to show that its success has not proved it to be the best that could be done. If I saw the case before it was absolutely moribund, I at once administered an emetic cathartic of calomel and ipecacuanha; and after its free emetic operation, I gave the following in doses as the symptoms required: \mathcal{R} .—Tinc. of opium oz. ii; Tinc. of best African Ginger, oz. ii; Ess. of Peppermint oz. ii; Sulph. Ether, oz. iss; Tinc. of Camphor, oz. iii; Tinc. of Kino, oz. ii; Brandy, dr. x; Syrup half a pint; shake well. In very bad cases I also administered capsicum, and gave camphor quite freely. I generally gave to all the following: \mathcal{R} .—Calomel, gr. ii; Camphor, gr. i; Acetate of Lead, gr. jss; Gum Arabic sufficient to make a pill; these were given every three hours. In the cold and pulseless state, I enveloped the patient in a blanket, wrung out of water as hot as he could bear. This I found serviceable in relieving the cramps, which were the most unpleasant symptom. To some of my cases, I applied bottles of hot water and hot bricks; but I preferred the blanket. At the same time cholera was raging here the entire community was generally affected with serous diarrhea.”

INDIANAPOLIS.—Prof. J. S. Bobbs, furnishes the following information of the prevalence of cholera in this city.

—In the night, July 31, 1849, I was called to the first case of Cholera, occurring under my observation in this city. Two Irish laborers came to town about two weeks before, from the vicinity of Laurel, Indiana, whence they had been driven by the presence of the disease. They had eaten a very hearty supper, after having worked in a brick-yard the previous day, and having drunk copiously of water, according to their own representation, and were seized with violent vomiting and purging during the night—followed by cramps, and the other symptoms of cholera. The vomiting and purging were gradually arrested, the cramps were more persistent. The one patient died the following morning, reaction followed by several days fever ended in restoration to

health in the other. The father, sister, and an adult brother, with some children, occupied the same room with these patients, during part of their illness, and some of their friends visited them. The house was old, dilapidated, and comfortless, at best, was nauseous from the accumulated filth, arising from carelessness, and disproportion between the space and number of occupants. No other members of the family were seized, and so far as we are apprised no other cases of cholera occurred that season among those subject to exposure in that quarter.

One, or perhaps two cases, reported to have been cholera, and ending fatally, fell under the care of other physicians here, that season. They were among emigrants recently arrived, who had passed through districts where it prevailed; but I have no particulars of their cases.

The first summer month in 1850, was characterized by a marked predilection to involve the bowels in all the forms of disease which existed. These were in some instances diarrheic, in others dysenteric, and in others again both—the first from the small bowels, and the other from the large. As the summer advanced, more decided evidences of a sickly season were manifested, at a period unusually early, and the predominant type assumed from the first, become more decidedly developed; until little else fell under the observation of the physician but dysentery, diarrhea, or diseases of which one of these constituted an essential part. A great many were ill throughout the community, but during the first summer months the mortality was not so great as it became later in the season. During this time no marked cases of cholera were observed.

The same night, July 31, 1850, giving one year's interval, at 4 o'clock in the morning, I was called to see a German grocer, living near the centre of town. Another physician had been previously summoned, and finding the patient verging on the collapsed stage of cholera, requested me to see him. The vomiting and purging were promptly arrested, the spasmodic contraction of the muscles were more protracted. He died at nine o'clock the same morning. The marked cholera symptoms had set in between eleven and twelve; but he did not call his physician until between three and four o'clock. He had been harrassed with diarrhea for a month before the complete development of the cholera.

A short time before this case occurred, a German emigrant, who had returned to Germany to bring his family, had arrived, and shortly after was taken with cholera, with which he died. Some other emigrants who came with him, were also attacked. During his illness he remained with a German resident, C. H.,

who had not been absent. This man was subsequently attacked, and during his illness, and after his decease, the wife and a son of the grocer, just mentioned, were with him. Being intimate acquaintances, the sudden and unexpected death of C. H—, greatly distressed and alarmed Mr. R—, the grocer. No other member of either family were attacked. The former had a wife and several children, the latter a wife and six children. Mrs. R. and her daughter were attacked with diarrhea, followed by some fever, but no other cholera symptoms. The abrupt decease of Mr. R., produced considerable sensation in the community.

August 1st, Wm. P. S., resident of Madison, Indiana, who had charge of the Railroad running to Shelbyville, Shelby co., and where he had been actively employed during the prevalence of cholera at that place, requested me to see him at a Hotel, at which he had just arrived. He had vomiting and purging of a suspicious character, but no cramps beyond involuntary muscular twitchings. He was greatly alarmed and much excited, under the conviction that he had cholera in its worst form. A very liberal mustard emetic soon enlisted his solicitude more particularly for his stomach, and copious emesis being followed with an anodyne, and small but repeated portions of a mercurial, he progressively improved, and in a few days was able to accompany his wife and son home, whence he had brought them in his state of apprehension. A number of persons visited Mr. S. during his illness, but we are not aware that any of them contracted the disease.

In the latter part of July, P. S. was attacked with vomiting and purging, which were represented to be copious and greenish, accompanied with some cramps, copious perspiration, and oppressed breathing. These symptoms were allayed without much trouble, reaction ensued, followed by fever, and in a couple of days by delirium tremens. He resided in the North west part of the city. His son, G. S. was at work in a gravel pit at the north east margin of the city. The pit was several feet below the surface of the ground, and thus the laborers were cut off from a circulation of air, and the weather being warm, they drank copiously of water. He resided with his father, and on the 2nd of August in the evening, called at my office to know how his father was progressing, saying he had quit work several days, because he had not felt very well. August 3rd.—Early in the morning was called to see this G. S. Found him in the collapsed state of cholera. He died before noon. His father had been troubled with diarrhea, for which he had taken a number of cholera nostrums, that the apothecaries advertised, up to the day when he was attacked with

vomiting. The son provided himself too, and on the night of the 2nd day of August, took a large allowance of something that was warranted to cure or prevent cholera. Before day his bowels required him to go out several times, and the last time remaining longer than usual, his wife went to see after him, and found him laying in the garden unable to reach the house. I found him cold, blue, shrivelled, pulseless, and vomiting at short intervals. But his chief distress was the cramps, which seemed to seize all the voluntary muscles at intervals, and were very violent. Diarrhea, with occasional vomiting, but presenting no characteristic of cholera, seized several other members of the family. They were generally controllable, were followed by fever, and recovered, as did also the father after a protracted illness. The alarm became so general that few persons visited the family during their illness.

August 4th.—Visited Mrs. G. R., who had just removed to the South east suburbs of the city into a new house. She had been vomiting and complained of great distress of the stomach. Bowels lax and occasionally painful. She was greatly alarmed, as her residence was near those of a number of German emigrants, many of whom were said to have died, or were then ill with the cholera. During the next ten days she passed through a pretty severe attack of dysentery, but had so far recovered as to be about, and I had ceased visiting her. On the evening of the 14th, she sent for me to advise her as to the propriety of her removing to the country for a while, as she felt assured she would take the cholera where she then was, being near the most afflicted part of the city. I urged her to do so, and she made arrangements to remove the next day. Early in the morning of the 15th of August, was sent for to see her. She had the usual symptoms of cholera, soon collapsed and died at noon. Taking a great interest in her case, I watched her with much care. The vomiting became less, as did also the purging seemingly, and the cramps somewhat abated. But just before her decease, the bowels discharged with scarcely any intermission. The restraining injections had prevented their evacuation; but effusion seemed to have been going on, and when all control of the sphincter was lost in articulo mortis, the contents of the bowels ran away.

The first case to which this report for 1850 alludes, occurred in the north east part of the city. The second near the center. The third was imported from Shelbyville. The fourth and fifth, in the north west part of it, and the sixth in the south east. They cover a period of about three weeks. Our citizens generally discredited the first reports of cholera, and up to the middle of August, its prevalence continued to be

questioned. Even at present many can be found who deny that we ever had cholera here ; but it is among those who never believe until they see themselves, and they will never see the cholera, unless it steps into their own dwellings. While we had many that acted the part of the good Samaritan, there were those who passed by on the other side, and were too prudent to verify by their own observation, the correctness of reports authorized by the doctors.

During the month of August, the disease increased, was probably at its height about the first of September, and had pretty well ceased by the end of this month. Dysentery prevailed at the same time with the cholera, and as the season advanced, the former became epidemic, as the latter receded. Among the native or long resident population, dysentery was very prevalent, and often fatal ; but these were rarely seized with cholera, in comparison with those who had recently emigrated. These were mostly Germans, and a number of families having recently arrived, were crowded into other families already scantily provided with room, or huddled together in masses, without comforts, conveniences, or care. Probably over two-thirds of those who were ill, received their advice from irregular practitioners, and the mortality was very great among them, in some instances sweeping large families out of existence. But whether from cholera, or dysentery, or some other form of disease, could not always be known ; as these irregular practitioners habitually called every thing cholera, that came under their care.

It is also impracticable for the same reason to estimate the number of deaths from the disease. We should suppose, however, fifty to be a moderate estimate, nearly all of whom were among our foreign population. Our soil is alluvion deposited upon sand. Running from the north east to the south west, Poague's Run cuts off an angle of the city. This south east angle is the highest part of the city, and is a clay soil. Along the base of the rise, a channel had been recently cut out for Poague's Run, and south of but adjacent to this, the population was chiefly of these Germans. Among them however, were interspersed native citizens, and some who had lived here all their lives. This portion of the city suffered greatly more than any other. Few persons lived there during the season, and escaped having either cholera or dysentery, and whole families, both foreign and native, were broken up with one or the other of these diseases. The mortality was also beyond all proportion in this portion of our population. Except this part of the city, no marked exemption or prevalence of these diseases was observable—the dysentery especially,

prevailing more or less through all parts of the city. No obvious causes could account for the marked preference given by the disease to this angle of the city. Its eastern limits were bounded by a strip of woods, immediately beyond which, a number of hogs were fed by some butchers from the offal of slaughter houses, and the swill and garbage of the city. This place was said to be very offensive, and we have heard citizens resident in that part of the city, say it was particularly so after night. There was much complaint in reference to this matter from those living there, and many of them ascribed the prevalence of the disease to this cause.

The new channel given to Poague's Run, as also some excavation and embankment for railroad purposes in this part of the city, exposed much new soil to the weather. This soil was deposited by the run, and was chiefly vegetable, mixed with some animal debris. In the opinion of many, this had much to do with producing the disease.

About the time the disease reached its height in the city, occasional cases were reported in the country about ; but no general prevalence of the disease occurred here. August 28.—Visited J. H., about three miles from town, and found him with all the characteristics of cholera. His habits were dissipated. He had been in town a few days before he was attacked, but not where there was any cholera that he was aware of, although he believed he had contracted the disease there. He died on the 30th. His wife was taken immediately after, and died with all the characteristic symptoms of the disease in the hands of another physician. His daughter, Mrs. J., who resided in the city, visited her father and remained with him during his illness. Sept. 1st.—Visited her at her father's residence when she had all the characteristic symptoms of cholera. The vomiting and purging and cramps abated during the day. The ensuing night violent uterine hemorrhage supervened, followed by great prostration, and death the night of the 2nd of September.

We are not aware that any other cases occurred in this neighborhood, where exposure was traced to this house. No other member of the family, which is large, contracted the disease, although several of them had diarrhea. Owing to the alarm, not many persons visited them during their illness.

Nov. 13.—Visited Mr. V., member of the Legislature from Shelby co. He had been troubled with diarrhea several days, when vomiting and cramps supervened, which induced him to send for me. He had taken a number of things to arrest the diarrhea at the suggestion of others ; but without avail. He had all the symptoms of the disease, and the same night collap-

sed and died soon. Mr. K., member from Henry co., roomed beside him, and had suspicious diarrhea ; but it was arrested without developing any further evidences of cholera. No case of cholera had been in the city for several weeks before, and none followed this one. He had been exposed to the disease in Shelby co., when it prevailed there.

As an example of the violence of the disease, we will give an instance. Before day on the 20th of August, we were called out. Passing a small shoe shop, the door of which was open, we observed a person on a cot. It arrested our attention so, that we stepped in. It was a young woman of about 18 years, in the collapsed stage of cholera. She belonged to a German emigrant family recently arrived. Since which she had lost her mother, and several brothers and sisters. The previous evening being acquainted with the shoemaker, to whom she was engaged to be married, she called to see him on an errand, when she was taken ill and could not get home. The shoe maker had called an irregular doctor, and was doing his best to carry out his instructions, and was the only nurse the poor girl had. During our absence he left her alone in the shop to bring her father, who resided perhaps a mile off, in the most infected district. The two were with her on my return ; but she was hopelessly collapsed. Early in the morning I passed again. She was dead, and had already been carried to her grave, or somewhere else, we believe the former.

On the subject of treatment, we have but little to say. While we put in requisition most of the means creditably recommended, we were not flattered with the result. We had no great trouble in arresting vomiting and purging by astringent injections and anodynes ; but when the mucous surfaces desisted throwing off discharges, the skin was apt to take up the office, and generally executed it quite as efficiently. The cramps were mostly in the extremities ; but the other muscles were often involved in them. Left without attempts to relieve them, they were frequent, painful, and exhausting ; and to bring them under the subjection of an anodyne was apt to reduce the patient to an undesirable state of stupor, in which he would sweat to death, or be visited by dangerous reaction. We always employed mercurials in some form, where our patients got well ; but they did not always get well where we employed them ; and in violent cases, we believe they are too slow in their action, however appropriate they may otherwise be. We believe we have read every thing on the treatment of cholera which has fallen in our way, and have had some opportunity for observation ourselves. Still we believe we

would treat it quite as satisfactorily to ourselves, if we had never seen or heard of it, as with these seeming advantages. Sometimes my patients got well, and I hoped I had contributed to the result; sometimes they died, and I fear I did the same; and frequently I thought the treatment neither good nor bad, so far as it influenced the issue.)

JOHNSON COUNTY.

In this county there were but few cases of cholera. At Franklin, the county seat, I have been informed there was not a case.

MORGAN COUNTY.

Dr. David Hutchinson, of Mooresville, writes me that there has been no cholera at that village; although in 1850, while cholera was prevailing at Indianapolis, they had frequent cases of diarrhea, or cholerine. He states that the principal diseases for the last three years, in the neighborhood of Mooresville, were dysentery and typhoid fever. Last summer, dysentery and scarlatina prevailed at that place.

Dr. G. B. Mitchel, of the same place, informs me that cholera made its appearance at Martinsville, the county seat of this county, in 1851, on the 15th of June, and disappeared about the 1st of July. It was supposed by the citizens to have been introduced into the town. He says that the locality where it prevailed was the same as the surrounding country; and he did not discover that habits of life, age, or sex, had any influence over the disease. But it was modified by the condition of the atmosphere,—for while it was prevailing the weather was warm and sultry, and the atmosphere dry. It subsided after a few showers. He writes that about half the number attacked died. The remedies which he found the most successful, were stimulants, given internally and applied externally, also opiates administered in such doses as symptoms seemed to require.

PUTNAM COUNTY.

I received information from Dr. S. Ritter, of Pleasant Garden, that cholera appeared in the neighborhood of that village, in June, 1851. He writes that it was confined to an area of about two miles square. The inhabitants were farmers, of stout and healthy constitutions. The land was flat, and rather inclined to be wet. There were ten cases seen by the Doctor and his partner. He remarks, as to the cause of this outbreak of cholera, he could not detect anything in the locality, or any imprudence with the inhabitants, that would have been likely

to have produced the disease. He also remarks that it was the prevalent idea in the neighborhood that the disease was brought to the house of an old gentleman, by his son, who had just returned with his wife from St. Louis, where the cholera was then prevailing. His son had the cholera on the boat, and his wife had the *diarrhea* when they returned. "They brought home a large amount of dirty bed-clothes and wearing apparel. These were exposed to air the next day after their arrival. They returned on the 23d of June, 1851. On the 27th, the old man was attacked, and died in six hours—his age was seventy. On the 29th, his son-in-law, living in the same house, was attacked, and died in nine hours. The house was vacated by all but the man and his wife who had just returned from St. Louis. This house was cleaned, the beds aired, the clothes well washed, and there were no more cases until the 17th of July; and between this time and the 28th of the month, the others were attacked. All lived within three-quarters of a mile from where the first patients died, and were in attendance on them, with the exception of one who lived about two miles distant, and did not see any of these cases, but he was at the house while they were cleaning it. There were five deaths,—three males, one young woman about twenty years of age, and one infant. All of the patients had vomiting, purging, cramps, great prostration, blueness of the skin, suppression of urine, &c. The persons who attended the sick, or who lived within the immediate vicinity, that escaped the disease, were affected with *diarrhea*." The Doctor also writes, that twelve miles east of Pleasant Garden, at Mt. Meridian, which is situated on a hilly and limestone country, cholera prevailed in 1849. He says, "that I am informed by Dr. Brenton that nothing like the disease prevailed until a couple of cattle drovers from Washington County, Pennsylvania, stopped there; both were attacked with the disease, and died the same day. The disease from these cases seemed to rapidly spread through the town and surrounding country." The Doctor believes the disease both contagious and epidemic.

In regard to the pathology of the disease, the Doctor adds: "It is probable that the poison, or poisons, acts primarily upon the nervous system, producing great nervous prostration, and as a consequence, cramp, vomiting, purging, suppressed secretion, &c.; therefore I believe the first great indication in the treatment, is to restore nervous power and arouse the secretions. The first of these will be met by quinine, given in quantities proportionate to the violence of the disease; the second, by calomel or its equivalent, opium in moderation,—stimulants and astringents (among the best of which is tannin,)

are all useful. I do not push the opium, for fear of narcotism. Should the patient pass to the stage of reaction, I rely more on the tonics than on stimulants, and give mercury "*ab initio*" until ptyalism is produced. I consider that there is no better preventative in the way of medicine than quinine and blue-pill."

At Greencastle, the county seat of this county, I have been informed there were no cases of cholera.

CLAY COUNTY.

Dr. S. Ritter informs me that while cholera was prevailing at Pleasant Garden, in Putnam County, the disease made its appearance at Brazil, which is five miles from that town in the north part of this county. The Doctor writes, so far as it is known, the disease was not taken there, unless by the physicians, one of whom saw some of the cholera cases near Pleasant Garden. At the time he saw these cases, he was attending a woman who had just been confined. In a few days afterwards, this woman took the cholera and died. From this case the disease seemed to spread: there were several deaths in the family, and he writes that he has been informed that all who died, with the exception of one case, had visited this family. He says that at the house where it first made its appearance, there was a cellar filled with stagnant water, with dead animals in it. This may have acted as a predisposing cause to the disease. The particulars he cannot give, as he did not obtain his information from medical men, but from citizens of the town.

VIGO COUNTY.

Dr. Ezra Read, of Terre Haute, writes—"We have been singularly and entirely exempt from cholera,—but a single case has ever occurred here. A traveler died at this town in 1850, having passed through some districts in Illinois where cholera was prevailing. He had premonitory symptoms when he reached the hotel, and died in about six hours. We can scarcely assign a cause for our exemption from this disease. It has prevailed on the Wabash river towns, both above and below Terre Haute, and at Paris, Ill., 20 miles west of us."

OWEN COUNTY.

Dr. A. B. Allen, of Spencer, writes me that cholera has not prevailed in this county.

SULLIVAN COUNTY.

Dr. C. C. Davis, of Carlisle, informs me that in this county there have been no cases of cholera.

KNOX COUNTY.

From Vincennes, Dr. W. W. Hitt writes that cholera made its appearance in that city July 15th, 1850, and disappeared about the 15th of August following. He says the disease appeared to arise spontaneously. At the house where the first case occurred, the yard was in a filthy condition. Intemperance favored its progress; but atmospheric changes appeared to have no influence over the epidemic—neither had locality, for it prevailed in the different parts of the town. He writes that more than half of those attacked died. He relates a remarkable case that came under his observation and treatment in 1850. It was “that of a lady about the full term of uterogestation. She was attacked with cholera; labor pains came on about the commencement of the attack. The large doses of camphor in the prescription, calomel, camphor and pepper, ten grains each, appeared to suspend the labor pains for twelve hours, and until the violence of the attack had passed. During consecutive fever pains had reappeared, and she was delivered of a child apparently full grown, and some hope entertained of her recovery. The child was born with nearly all the symptoms of Asiatic cholera fully developed, and died three or four hours after birth. The woman also died some thirty hours after her accouchment, of consecutive fever.”

“In the treatment of cholera,” the Doctor remarks, “my general course was to give prescription No. 1, viz: calomel, camphor, and pepper, from 8 to 10 grains each, every one, two, or three hours, according to the urgency of the case, until diarrhea ceases. Then give prescription No. 2—the above reduced one-half, and add compound extract of colocynth pills, two, three, or four hours, until purging ensues. Then lessen the dose of No. 2, and give at longer intervals for two or three days. Warm the extremities with hot water by holding them near the edge of the bed above a tub of hot water, by pouring, or by means of cloths. The water is applied as often as necessary to keep them warm. I allowed ice to be held in the mouth until dissolved. I noticed that all who recovered slept two days and nights after the violence of the disease had passed, and during consecutive fever had to be aroused from slumber to give nourishment or medicine.”

DUBOIS COUNTY.

I am informed by Dr. R. M. Welman, of Jasper, that cholera appeared in this county in 1849, on the 28th of June, and disappeared about the last of July. He writes, “it seemed to arise spontaneously, and a cloudy and damp atmosphere favored its progress. It prevailed alike in the healthy and un-

healthy localities." He says that habits of life, age, sex, and occupation appeared to have no influence over the disease. The number of deaths, in proportion to the number attacked, were, the first and second week, about two to three; after that time, one in five, or less. The remedies which he found most successful, were a combination of the most powerful stimulants and antispasmodics, given without regard to quantity. He found mercury most serviceable after the violent symptoms had subsided.

WASHINGTON COUNTY.

Dr. Saml. Reid, of Salem, informs me that cholera prevailed at that town in 1833. He says at that time there were about 1,500 inhabitants in Salem, and there were about 150 deaths from cholera. In the month of August, 1849, cholera appeared again, and disappeared in September. There were this time thirty deaths. In 1850, there was not a case. In 1851, during the month of July, there were four deaths. In July, 1852, there were three deaths from cholera. The Doctor thinks that the disease appeared spontaneously. He says that he could not discover that habits of life, age, sex, or locality, had any influence over the epidemic; sudden changes in the weather he thinks had. He states that three-fourths of those attacked died. In the treatment of the disease, the stimulating plan he found best. His principal remedies were brandy, camphor, opium, and chloroform, administered as symptoms required. He depended principally upon calomel, after reaction had taken place.

FLOYD COUNTY.

From New Albany, Dr. J. Sloan writes, "that cases of cholera had been landed at that place from steamboats during the winter of 1849, and some cases also occurred in persons who had been exposed upon the river. It first appeared as an epidemic in the latter part of April, and cases continued to occur with considerable frequency until the middle of autumn. The cases I saw early were more malignant than those of the summer and fall. Persons of broken-down health, and intemperate habits, were more frequently attacked than those in robust health. I am not aware that its prevalence in this place was influenced in a marked degree by locality, age, or sex. There were, in 1849, one hundred and twenty cases reported, and forty deaths—probably the number is too great.

"In 1850, the disease appeared in June, and occasional cases were reported during the summer and fall. There were about thirty deaths during the season—a larger number of

deaths, in proportion to the cases reported, than during the preceding year.

"In 1851, the disease did not prevail as an epidemic—a few sporadic cases occurred.

"In 1852, there were a few cases in the city. The first was a lady; then her husband. These cases occurred during the session of the Indiana State Medical Society. These persons had been in attendance on a niece in Portland, Ky., who died of cholera. The lady was attacked immediately on her return, and the man two days after—both died. Cases had been landed at Portland, and the disease appeared to have been introduced there in that manner.

"Late in the summer, a boat-load of pauper German emigrants shipped from New Orleans. On the trip they were attacked with cholera, and a large number died. Some fifty or more landed here, and were charitably taken in by some German families near the city. The larger number died of cholera, and in a number of instances the disease appeared to be communicated to their attendants. The latter cases were not in the city. They were visited for the most part by a German physician, who wrote a communication for the Louisville Medical Journal on the subject. I have not read the article, and consequently cannot endorse it.

"Various modes of treatment were tried, and in the milder cases were quite successful; in the more malignant, no treatment was of benefit. I think the most successful treatment was the early administration of an emetic of salt and water, with mustard, followed by mercurials, opiates, and astringents, or stimulants. Say calomel, opium, and acetate of lead, or camphor, variously combined, to meet the particular indications. Externally, sinapisms and dry heat were useful.

"In 1849 and 1850, cholera was preceded by diarrhea, and bowel complaints were unusually prevalent during the summer, followed by dysentery in the fall. The latter was not of a malignant character. Since 1849, I have observed a great increase of what are usually known as fellons, boils, carbuncles, and pustular diseases." This agrees with my own observation. The Doctor also remarks, "that in 1850, 1851, and 1852, I have attended a smaller number of cases of tubercular diseases than in as many years before this period. I think the number again on the increase." He says, "I should be pleased to know if this is accidental, or if others have observed anything like an antagonism between the diseases?" In answer to this inquiry, I can state that as far as my observation has gone, we have had an increase of tubercular diseases since the cholera made its appearance.

Dr. Girdner writes from Greenville, in this county, and his remarks are endorsed by Dr. Links of the same place, that cholera prevailed in that neighborhood in 1849, 1850 and 1851. The first case that occurred was on the 18th of May, 1849; and they had occasional cases up to the 1st of August. The disease was not very malignant, for out of eighteen cases there were only two deaths. In 1850, there were seven cases and two deaths; in 1851, three cases and two deaths. He says that the first year it appeared spontaneously; but in 1850 and 1851, he thought the disease was introduced into the neighborhood. In 1850, "it appeared in one family, and was evidently brought from off the river by the father; three of the family were attacked." The remedies which he depended upon, were calomel, opium, acetate of lead, camphor, and ammonia. Externally, dry heat.

Since the above was embodied in the report, Dr. Girdner has sent me another communication, giving the particulars of the manner in which cholera was introduced into his neighborhood in 1850. He writes that on the 25th day of April, 1850, he was called to see Moses Scott, 65 years of age, who had just returned from Iowa. On the steamboat on which this man came up the river, there were a number of cases of cholera, and he was attacked with vomiting, purging, and cramps. The captain gave him medicine, and when he arrived at New Albany, two days after his attack, he was able to be conveyed home, a distance of ten miles. When Dr. Girdner saw him he still had symptoms of cholera. Two days after his return home, at 1 o'clock in the night, two of his daughters were attacked with cholera. When the Doctor arrived next day at the house, which was 11 o'clock, one of the daughters was dead, and the other vomiting, purging, and cramped—she however recovered. Five days afterwards, the husband of the daughter that died, was attacked with the same symptoms; he recovered. The Doctor remarks, "that many persons visited the sick, and nearly all had more or less of the symptoms of cholera, such as diarrhea, but by taking medicine in time, no more had fully developed cholera." The Doctor also writes at the time this man Scott came home, there had been no cases of cholera in the county out of New Albany, nor even diarrhea. The disease was confined to this family, and those persons who visited there. There was nothing in the habits of this family that was calculated to produce this disease.

The Doctor also writes that cholera appeared again in that section of country about the 1st of July, in the same year. It was introduced as follows: A German, emigrating from Germany, with his family, was attacked with cholera on the

steamboat and died, and was buried between Madison and Utica. His wife packed his clothes and the bedding into a large chest, without washing or airing them. On arriving at New Albany, she had this chest taken into the country, where she commenced housekeeping in one end of a double log cabin. In the other end resided a German family—the passage between the two rooms served as a cook room for both families—a few days after her arrival, an old lady living in the one end of the house, who had not been away from home, was attacked with cholera and died; about the same time two sons of the widow were attacked with cholera and died. In the other end of the house another woman was attacked with cholera, and also died. During her illness her mother, Mrs. Green, who resided some distance from her daughter, came to see her; on her way home she was attacked with cholera, and also died. The German widow had another son attacked, but he recovered. The Dr. saw these cases, although he did not attend any of them professionally, except Mrs. Green. They were attended by another physician. There were one or two deaths more at this house, but he did not see these.

The Doctor writes, “these cases all occurred in the same house, and were exposed to effluvia, arising from the unwashed bed clothing, upon which the man died on the steamboat.” None of the neighbors contracted the disease except Mrs. Green—however very few visited there.

The Doctor also remarks, that the appearance of the cholera, in the spring as well as in this instance, was upon elevated, dry, and usually healthy localities, where cholera had never been known before, nor has it appeared there since. In both instances neither of the families had been from home. The Dr. also writes, “I was a total disbeliever in the contagiousness of cholera, but these cases rather shocked my want of faith to some extent.”

SPENCER COUNTY.

From this county Drs. Morgan, DeBruler, and Crooks send me information that cholera first appeared in Rockport, in June, 1850; and the last case was in September following.—They say that it appeared spontaneously, or at least there was no evidence that the disease was imported. It prevailed in healthy and unhealthy localities alike, and during all kinds of weather. Intemperance appeared to increase its fatality. About one-third of the number attacked died. In reference to treatment they say that they have nothing new to offer. One case of collapse recovered, after the use of the cold dash.

VANDERBURG COUNTY.

From Evansville, Prof. G. B. Walker writes, "that cholera has prevailed with considerable mortality in this city and its vicinity, for the last four years. It commenced during the summer of 1849; this summer and the summer of 1850 it prevailed in a distinctly epidemic form, destroying about 150 of our citizens each season, or one and a half per cent. In the summer of 1851, and summer of 1852 it prevailed, but not to the same alarming extent, carrying off about 50, or one-half of one per cent. of the population each season; and perhaps in the latter seasons had more the characteristics of an endemic disease.

As in other places it prevailed to the greatest extent amongst the poorer population, especially German and Irish emigrants, who were destitute of the means of comfort and more exposed by their occupations than those in better circumstances; and, also, in localities abounding in filth, as in the vicinity of foul streets and alleys, and still more strikingly near a steam mill and distillery, about which the grounds were exhaling a putrid odor." While cholera was prevailing the Doctor frequently observed it complicated with other diseases. He remarks that it was frequently complicated with bilious diarrhea. By this complication he says, "I only wish to signify that during the invasion of cholera this form of diarrhea has been quite prevalent, sometimes terminating in cholera, that is in serous diarrhea with vomiting spasms and collapse; at other times continuing for weeks with no other untoward symptoms, except copious thin bilious stools, yielding reluctantly at length under the use of anodynes and astringents as well or perhaps better without the addition of mercurials than with them. Remittent fever has sometimes been manifested during an attack of cholera, and when simple the case has justified and borne a more or less free administration of quinine, the febrifuge producing such decided benefit as to induce some to suppose that it might be a useful remedy in the treatment of cholera proper, and some have even gone so far as to ascribe the cholera itself to malaria. Instead of simple remittent fever, however, the more alarming congestive symptoms have not unfrequently manifested themselves. The seat of the congestion has generally been the cavity of the cranium, indicated by deep coma; sometimes however the abdomen or portal circle seemed to be also involved. In these cases calomel was an indispensable remedy; opiates could not be endured, senapisms, counterirritants, and revulsives, with cold applications to the head, occasionally produced the most happy effects, especially a blister over the precordia, when the patient lived long enough

for it to draw, (which was sometimes two or three days,) seemed to contribute greatly to the cure."

"The typhoid complications, which occasionally occurred, were found generally amongst foreigners, who had recently landed from on shipboard. These cases were extremely difficult to manage, and generally recovered best where stimulents were freely given, and persevered in conjointly with the remedies proper for cholera itself."

Cholera, as the Doctor observed it, "presented no premonitory symptoms that could be relied upon as menacing an attack of the disease. The diarrhea has stolen upon the patient without attracting his attention or exciting discomfort, until the shafts of death have irretrievably entered his vitals. It is not sufficient to reply to this that a powerful nervous shock affects a large proportion of the people during the prevalence of this disease, since this is nothing more than a natural accompaniment upon so terrible a scourge, and by no means a premonition of this disease, and doubtless this debilitating mental anxiety and alarm not unfrequently ushers in an attack. But an attack does not always follow upon the most debilitating, nervous or mental impressions, while, on the other hand, it is often established without any such antecedents. Diarrhea has of late years, even more than at first, been a prominent and early symptom. This frequently advances by the slowest possible degrees; the stools growing gradually thinner and paler, until the bilious tinge is entirely lost and nothing but colorless serum, or serum of a whitish color, or with white flocculi floating in it is evacuated. This constitutes the rice water discharge, from a resemblance to the water in which rice has been boiled. This serous or rice water diarrhea has continued from half an hour to several days, being generally more rapid when the discharge is copious, after which the peculiar vomiting in cholera, which, indeed, appears to be a spasmodic regurgitation, comes on, and now, between the vomiting and purging, the vital powers begin to sink rapidly. As soon as the prostration extends to the spasm point the cramps make their appearance, affecting all the voluntary muscles, but more especially those of the extremities, the stomach and bowels being occasionally seized with the most painful spasms; soon after this the spasms subside apparently from exhaustion, and the fatal collapse commences. The recoveries after collapse has been fairly established, amount, according to my own observation, to about one per cent of such cases. I am inclined to consider the rice water stools and collapse, as characteristic symptoms of cholera, and as being so intimately associated, as to resemble

the relativeness of cause and effect, and, indeed, the serous stools so invariably precede the collapse in this disease, as to make me regard the one the consequence and effect of the other. Be this as it may, I should consider the patient safe from collapse so long as bilious stools are discharged, and the danger of this fatal result to be almost removed when such evacuations have been changed in quality or arrested. Such has generally been the order of its different stages : 1st, diarrhea ; 2d, vomiting ; 3d, spasm ; 4th, collapse. In the treatment of cholera, the Doctor remarks : "that I am not clearly convinced that the profession has advanced materially since its invasion in 1832. The simple medication practiced by the profession generally, has, according to my observations, been the most satisfactory and successful, such as calomel, opium and camphor variously proportioned and modified. To these may be superadded rubifacients and internal stimulants and astringents as symptoms may indicate. The opium should be carried far enough to secure its anodyne or soporific effect; given short of this, it is only an inferior stimulant, and carried too far, it may, and indeed, I have known it to bring on a fatal coma. The camphor must always be given according to the judgment of the practitioner in each particular case. I have never known it to be administered in a poisonous dose in the management of cholera, and like sugar of lead, catechu, and tannin may be regarded as entirely of secondary importance. The calomel, at last, is the Sampson in our system of medication. It may be asked, is it most beneficial in enormous, moderate, or minute doses—that is to say, sixty, ten, or one grain doses ? I, formerly, was in favor of the ten grain doses, but now prefer the small or one grain doses, sometimes even smaller and occasionally larger. I am also become convinced that the mercury was useful only to maintain the secretions especially of the liver. When, therefore, the hepatic secretion is natural and sufficiently abundant, I have opposed its use, depending upon anodynes and astringents ; preferring opium or morphia for the former, and tannin for the latter." The Doctor asks : "is calomel always necessary when the stools are destitute of bile ? This is an important question, and, I am inclined to believe that the profession generally would answer in the affirmative. I am convinced from observation that it is *not indispensable* ; on the contrary, the recuperative powers of the system will sometimes restore the *bilious secretion* when entirely suspended in cholera. Such a desirable result, however, could not be relied on, and the practitioner would be highly culpable who would trust to the possibility of this favorable change, and abstain from the most

efficient means (mercury) to aid the flagging powers of the liver in securing so desirable a result. After the function of the liver has been restored, the patient may be considered out of danger, at least from the present attack—but by no means free from danger from complications or relapses.”

REMARKS.

Such is the information which I have been able to obtain of the progress of cholera through the state of Indiana. The principal objects kept in view in drawing up this report, have been to ascertain to what extent the epidemic has prevailed within the state ; next, what are the evidences that this disease was introduced amongst us, and was propagated by contagion ; also what were the predisposing and exciting causes which favored its development, and also what was the treatment adopted by our physicians.

Inreference to the contagiousness of cholera, we have seen from the statements of a number of our physicians residing in the interior of the state, that the disease has appeared in different parts of the country after the arrival of some person coming from an infected district, this person being first attacked ; then cases followed in succession as if communicated from one individual to another ; while the physicians of the towns along the river have generally, I believe, considered the disease as appearing spontaneously. I may here remark that the physicians of the West, particularly those who reside in the country, possess peculiar advantages in observing the progress of cholera. It is not amongst the crowded population of a large city or even along our great thoroughfares that we can satisfactorily ascertain whether cholera does or does not progress over the world by contagion or infection, for the means of communication may be so various to those who are predisposed to the malady, that the connection between the different cases cannot be discovered ; but, in a country where the population is sparce, and the inhabitants, alarmed by the prevalence of the epidemic, live almost isolated from their neighbors, we have a better opportunity of observing the connecting links, if there are any, between the different cases that occur. From my own observations, and from reviewing the information I have been able to obtain, cholera appears to me in its progress through the state of Indiana, to present more the appearance of an infectious disease than that of an epidemic depending upon some widespread cause in the atmosphere. The manner in which the epidemic first made its appearance at Aurora, (and this was similar

to its first appearance at most of the towns along the river) did not resemble at first the progress of an infectious disease. This I believe was owing to the fact that cholera poison was first introduced into Aurora, as well as many other river towns, by passengers from the steamboats in the winter, a season of the year, when the disease would not prevail except in the form of diarrhea. Persons were constantly arriving at that time from New Orleans, where the epidemic was prevailing, unwell with diarrhea, and the first cases which terminated fatally at Aurora, were individuals landed from steamboats; but the disease did not spread in a malignant form from these cases. We had at first an epidemic diarrhea; this diarrhea gradually increased as the season advanced, and, although easily managed at first, I believe from the sudden prostration of the system which frequently accompanied it, and the clear serous discharges, to have been a mild form of cholera, and to have been introduced into our town by persons arriving from off the steamboats.

I can see nothing inconsistent with the nature of this disease, in supposing it may assume a mild form—the form of a diarrhea alone. We have a mild type of scarlatina scarcely attended with any danger. The malignant form of this disease, as is well known, is almost as fatal as the worst forms of cholera. Does not a combination of circumstances make the poison of cholera more malignant, and change to a certain extent the character of the disease? When the epidemic assumed a malignant form in Aurora, the first case that terminated fatally, appeared to spread the disease in its malignant character. This person, as I before mentioned, had not contracted the disease abroad, but she had seen persons shortly after their arrival from New Orleans who were unwell with diarrhea. The house at which this case occurred, is on an elevated situation, in one of the healthiest portions of the town. Within one week from this death, the disease appeared in a malignant form in nearly all the houses in front and in a Northeast direction within one hundred yards, while the inhabitants on the South and Southeast were not attacked so severely. There was nothing in the *locality* or the habits of the inhabitants that I am aware of, that would have favored the development of the disease more in this part of the town than any other. I resided in this portion of the town eleven years, and scarcely had a day's illness until attacked by cholera. I consider it the healthiest portion of the town. When it was observed that the deaths principally occurred within a small locality, and most of the people in this part of the town had been in the habit of using water from a well near my residence, it was supposed that this water might have some

influence in developing cholera, consequently the use of it was discontinued and cistern water used instead ; but there was no abatement in the cases of cholera. Limestone water however, may probably have acted, in some instances, as an exciting cause to the disease ; but I think more importance has been attached to this cause by some persons than it really deserves. If limestone water was the principal cause in exciting cholera, why did not the disease prevail again the next year, when, after an unusually dry season, our wells and the wells throughout the whole country contained but little water, which, from its muddy appearance, might be considered a saturated solution of lime. Cholera was again amongst us, but it manifested no tendency to spread as an epidemic. But if we consider the disease as having prevailed in a mild form, and then as season and other causes favored its development, assuming a malignant character, and also that the infection is capable of accumulating and becoming concentrated in certain localities, it appears to me we can understand the manner in which cholera prevailed in Aurora, and the infected district. Six or seven hours before the first case terminated fatally, the evacuations from the bowels passed involuntarily into the bed, consequently the bed and straw became saturated with these discharges. Immediately after the death of the patient this bed was emptied in a vacant lot on the west side of this house. Now, if we can conceive that from this straw there emanated a poison capable of producing cholera, that part of the town which became affected, is just that portion which a vapor emanating from this place would be most likely to pass over. The patient died on the 5th of June, and from the 5th until the 9th the weather was calm, damp and sultry, with scarcely any motion of the air. If a small dog had been lying upon this lot in a state of putrefaction, I have no doubt but all persons living within the infected district, would have been sensible of it from the offensive effluvia passing into the atmosphere. As this straw dried there must also have been a vapor rising from it into the atmosphere, and if we view this vapor as producing cholera, we can understand how the inhabitants in front and in a North-east direction became affected, and, as fresh cases occurred, the different houses became foci of infection, and thus the disease gradually extended along the street. We mentioned a number of instances which occurred at Aurora, that appeared to me as if the infection had extended through the atmosphere. One was the woman who died in the next house to the one in which Dr. Loda died, and about fifty yards distant. She had not seen the Doctor, I was informed, and

if the disease was communicated from one to the other, it must have been through the air. The first case appeared to have been contracted in Cincinnati. These two were the only cases that occurred in that part of the town during the year. We also mentioned that an Irishman died with cholera in 1852, the day after his arrival from Rochester, where the disease was then prevailing, and that the day following, October the 4th, a woman living about 40 yards distant, was attacked with cholera and died. This female had not been away from Aurora nor seen any case of cholera. In five days after her death, on the opposite side of the street from where she resided, a child was attacked with cholera and died. If there was any communication between these cases, it appears to me most probable, that it was through the atmosphere; as the first case occurred in an Irish family, the next in an American, and the other in a German, and these families had no intercourse with each other. There were several cases of diarrhea in the same part of the town shortly after. Other instances were mentioned where the poison appeared to have been carried through the air. The disease certainly appears to have been introduced into the town. These individuals came from localities where cholera was prevailing and contracted it abroad, and is it reasonable to suppose that a remarkable coincidence caused it to appear in the adjoining houses in which they died, while no other cases appeared at that time in the whole township.

I may here remark that after the summer of 1849, the inhabitants of Aurora seemed to have lost their susceptibility to the disease; cholera had no tendency to prevail again as an epidemic, neither had we again the epidemic diarrhea or dysentery to any extent. If we admit the view to be correct that the infection is capable of extending through the air, and producing cholera to the distance of several hundred feet, we see at once how the atmosphere of certain localities may be affected, and how it may prevail as an epidemic, and extend through a large city. In the first place, the infection must be introduced into a community in which cholera *has not prevailed for many years*; then a variety of causes favor its development, such as season of the year, wet weather, a high temperature, sudden changes in the atmosphere, and whatever has a tendency to produce diarrhea. When the disease prevails, each house at which a fatal case has occurred becomes a source of infection, first from the patient, next from the bed and bedding, also from the excretions which, from their watery appearance, are generally emptied on the ground. If the exhalations from a cholera patient, or from the discharges were as easi-

ly detected by the sense of smell, as the effluvia from carion, the odor of musk, or particularly the stench of the skunk, (*Mephitis Americana*) we should not have the least hesitation in considering the disease as extending itself through the atmosphere.

I have been aware of the presence of the skunk by the sense of smell four hundred yards from where the dogs were fighting it. On approaching the animal, I carefully avoided it touching me, yet when I visited town an hour afterwards, my clothing still retained the stench, and it was detected by persons with whom I came in contact. I think the manner in which this *animal secretion* is capable of extending through the atmosphere, throws some light on the manner in which the infection of cholera may be diffused through the air. We would say then, that cholera poison, like malaria, operates through the medium of the atmosphere, and like that poison, it cannot be detected by our senses.— We know that exhalations must be constantly passing off from the secretions, from the surface of the body, and from the lungs of every cholera patient. Even in health the exhalations from the lungs and surface of the body, probably extend much farther than we are aware of. A good hound will follow the trail of his master an hour after he has passed, although the trail may have been crossed and recrossed by other persons. Is there any thing unreasonable in supposing that when a man is unwell with a cholera diarrhea, or cholera in its more advanced stage, that these exhalations may be poisonous, and that a person apparently but little unwell may be instrumental in extending the disease? When cholera was prevailing at Aurora, the disease was generally felt throughout the whole town in the form of diarrhea and dysentery, but in the infected districts, a combination of circumstances accumulated a greater amount of poison, and consequently the disease was more malignant—the same as it appears wherever the infection can accumulate, as on board our steamboats crowded with passengers, or in our prisons, or in the army, or amongst large crowds of human beings.

It is scarcely necessary to mention that because cholera does not attack all persons who are exposed to it, that that is evidence against it being infectious. We know that all persons are not equally susceptible to the influence of typhus fever or scarlatina, yet very few physicians at the present day have any doubts that these diseases are contagious— The same argument may be brought against the cause of the disease being atmospheric, or general because all persons are not brought under its influence. If the cause of cholera is at-

mospheric, why does it not attack all parts of the country at the same time? It may prevail severely in a section of country, while an adjoining neighborhood only a few miles distant will be perfectly free from the disease but be attacked at a subsequent period. Such has been the case in some of the townships in Dearborn county, and some of the counties within the state. How can these facts be reconciled with the progress of the epidemic around the globe, if the cause is general or atmospheric? Does it not look more like an infectious disease spreading through the country? I think we may safely say that when an individual or a community has once been under the influence of cholera, that there is not, at least soon, the same susceptibility to a second attack. The system soon acquires the power of *tolerating the poison* and in a short time it ceases to produce any effect unless developed by some imprudence. Persons may have a second or third attack of cholera, but, from my own observation, this is not a common occurrence and when it does occur is generally brought on by imprudence.

We have many facts to favor the idea that persons leaving an infected district with diarrhea, have communicated cholera to others which has assumed its most malignant form. When the inhabitants left Aurora as I before mentioned, many of them were unwell with diarrhea, and they appeared to extend the cholera into the country. One instance—a Mr. Moore and his wife who resided in the infected district in Aurora, in 1849, left soon after cholera made its appearance in the malignant form at that town and went eight miles into the country to the house of his father-in-law. Mrs. Moore had a severe attack of diarrhea but recovered in a few days. Her mother-in-law, Mrs. E., who had not been away from home, in a few days after was attacked with cholera, and died after a few hours illness. In three days after her death, her husband had a severe attack of diarrhea which was followed by a typhoid form of fever. These were the only cases that occurred in that neighborhood. Dr. Burt of Vernon, Jennings county, mentioned how it was introduced into that town by a traveler unwell with diarrhea, but not sufficiently so to prevent him from continuing his journey. Also Dr. Ritter of Putnam county, stated some facts which appeared to me to show that the disease was introduced into his section of country either by the woman unwell with diarrhea or the dirty bed clothes he spoke of.

To those who consider the disease infectious, there are some facts to favor the idea that the infection can be carried in the clothing. I mentioned the case of the man Fickiss.—

A few minutes before I examined his lungs, I had been attending the only case of cholera in the county; in five days afterwards he was attacked with the disease and died, and there certainly appeared to be a connection between the five cases that followed.

The evidence presented by Dr. Girdner of Floyd county, certainly appears to show the disease was introduced into that section of the county by the unwashed bed clothes on which the man died of cholera on the Ohio river.

The length of time which intervenes between exposure to the infection of cholera and the appearance of the disease, varies from a few hours to five weeks as we saw in the case of Dr. Edwards, mentioned by Dr. W. R. Smith of Marion county, and the case of Mrs. Brixner mentioned by myself, occurring on the 13th of December last, but the average length of time from my own observation, has been about six days. Our conclusions then are, that cholera is propagated by laws peculiar to itself, but that these laws come under the head of those which govern infectious diseases. The question as to whether cholera is infectious or not, is an important one in several respects. We know that many of our best medical works tell us that cholera is not infectious, and consequently, cannot be communicated from one individual to another. If these works are wrong, they may aid in extending the disease by putting physicians off their guard, and preventing them from adopting precautionary means to arrest its progress, such as allowing persons to remain crowded in poorly ventilated houses, where the disease has appeared, also by preventing the adoption of necessary means to purify the buildings in which cases of cholera have occurred; by allowing the clothes and bedding to be exposed where the infection may be communicated; by permitting the excretions to be emptied upon the ground, where, by their evaporation, they may infect the atmosphere, &c., &c., &c. These causes when not attended to, must in my opinion, have a tendency to spread the disease. Other causes also exist—fear may predispose the system in some instances, to an attack, but I do not think fear has a hundredth part as much to do in spreading cholera as neglecting to attend to these causes, and acting imprudently in the manner of living. This is exemplified in the fatal form in which the disease has prevailed amongst our foreign population, also from the fact that at Aurora and other places where the epidemic prevailed, it assumed as malignant a form amongst children who were too young to be influenced by fear as it did amongst adults. When cholera assumes its malignant type, there can be but little doubt that it is more easily

prevented than cured, and although daily exposed to the disease, by acting prudently and carefully avoiding the exciting causes, persons soon become accustomed to the infection and lessen the risk of an attack.

I stated that cholera, in my opinion, assumed the mild form of diarrhea, that this diarrhea was not the precursor of cholera, but the disease itself under a milder type. Accompanying cholera in the west has been another disease—dysentery, which I believe also was a modification of cholera. I do not wish it understood that every case of dysentery that occurs while cholera is prevailing, I consider a modification of this disease. Dysentery prevails every season to a greater or less extent, but since cholera made its appearance in the country there has been a form of dysentery different from what we usually have, which I consider a form of cholera, and is capable under favorable circumstances of changing and appearing in the other forms of the disease. When cholera is prevailing in a malignant form, we often see one person attacked with diarrhea, another with dysentery, and another with the worst form of cholera. Are not all these cases produced from the same cause? It has appeared to me that in one case the disease expends itself upon the large intestines, in another upon the small, and in the other upon the whole system, overwhelming the functions of organic life at once. Accumulate the infection of cholera in a dense population predisposed to the disease and you will have cholera, and very probably have it in all its varieties—the malignant, the mild, the diarrhea, and the dysentery, although this last form of disease seldom prevails as early in the season as the other forms, and when it does prevail seems to depend upon some epidemic influence favoring the development of dysentery which gives direction to the action of the cholera poison. We then consider that cholera may be divided into

DIARRHEAL CHOLERA,

DYSENTERIC CHOLERA,

MILD CHOLERA,

MALIGNANT CHOLERA.

The malignant form of cholera does not prevail as extensively in the country as either the diarrheal form, the dysenteric or the mild form of the disease. It is only where the inhabitants are peculiarly susceptible to the disease, or a combination of circumstances favors the accumulation of the infection that it shows itself in its malignant character.

Diarrheal cholera is characterized, as I before mentioned, by the peculiar sero-albuminous discharges, by a tendency to sudden prostration, by profuse perspiration, &c., &c., although

it frequently occurs in so mild a form that it could not be told from common or ordinary diarrhea. I have known this to be the case, and after the disease had continued for several days, suddenly change and bring the whole system under its influence, and the malignant form in this instance seemed to be the *manner* in which the disease was about to terminate in death. Was it not cholera producing this diarrhea, and if it was, was not the system laboring under a mild attack of cholera? And when we see persons, as I have before mentioned, unwell with diarrhea appear to propagate cholera, is it not a rational inference that they would also propagate the disease in the form of diarrhea, when scarcely any cases commence without this derangement of the bowels? Why consider this diarrhea a premonitory symptom or the forming stage of cholera, as is generally done by our authors, when we see it prevail as extensively as an epidemic—often fatal in a few hours and appearing as it spreads over the country to remove the susceptibility of whole communities to the influence of cholera?—When it causes death are we to consider that it was not a disease that produced death, but merely the premonitory symptoms of a disease? We have yellow fever without black vomit, and certainly it is reasonable that we may have cholera without the worst phases the disease may assume. We then consider that cholera may be *spreading* through a neighborhood in the form of a *mild diarrhea* and public attention scarcely directed to it, when some person, or family, more susceptible to its influence are attacked and several deaths suddenly occur. The inference in such cases would generally be that the disease arose spontaneously. If these views are correct, that cholera may be propagated while in the form of a diarrhea, we see how rapidly this pestilence may extend over the whole country, even if only one out of ten contract the disease, which, in some sections of the country, under ordinary circumstances, appears to be about the proportion which is susceptible to its influence, although in towns or where the infection can accumulate, the proportion is much greater. Again, an individual having a mild attack of this *infectious diarrhea*, goes into a neighborhood where the inhabitants are predisposed to the disease, the person himself is scarcely aware that he is unwell; shortly afterward there is a sudden outbreak of cholera, and as all persons are not attacked who are exposed to it, if it does not occur at the house where this individual is staying, how difficult it would be to trace the manner in which the disease was introduced. Accordingly we consider that cholera differs from all other infectious diseases. Individuals laboring under typhus fever are too unwell to go abroad. The exanthema

tous diseases would be detected by the eruption, and avoided. Scarlatina, however, has some resemblance to cholera in the manner in which it is propagated. The infection, as in cholera, may remain latent in the system for an indefinite length of time—like that disease also, all are not equally susceptible to its influence. Both diseases also have a mild and malignant form; the infection of both will be retained about clothing, or a building for a considerable length of time, and if scarlatina prevailed amongst adults, and could be contracted more than once, it would occasionally sweep over the country as cholera does.

What we consider the dysenteric form of the disease has been so intimately associated in the west with the malignant form of cholera, that I cannot avoid the conclusion as before stated, that this disease was cholera expending its violence upon the large intestines. It has prevailed in the same sections of country with cholera, appearing upon the healthy and unhealthy localities alike. It appeared to be governed by the same laws, being about equally as infectious. Sometimes it suddenly changed into the malignant form of cholera, at others well marked cholera changed into dysentery. The worst forms of this disease frequently commenced with vomiting. The discharges were of a sero-mucous character, of a bloody or reddish brown color. There was severe tormina or tenesmus. The pulse was small, and the skin frequently in forty-eight hours became cold and clammy. The countenance shrunken; there was great prostration and restlessness, but frequently in the same family the disease would be so mild as to resemble the mildest form of endemic dysentery. I am aware that as "epidemics make other diseases wear their livery" that it will be considered that cholera was merely impressing its character upon this dysentery. But when we see cholera introduced into neighborhoods which were previously free from bowel affections and give rise to dysentery and both of these diseases prevail together, as is frequently the case, a very natural inference is, that these diseases have a common origin and the one is but a variety of the other. Dysentery, however, has prevailed where there were no well marked cases of cholera—it has been a wide spread epidemic since 1849.

This predisposition in the community to bowel affections evidently has favored the progress of cholera. When causes operate to produce a general predisposition to diseases of this character, then cholera rapidly spreads through neighborhoods, counties, states, or even over the whole world.

We know that occasionally whole communities are predisposed to the influence of infectious diseases; at such periods

scarlatina, measles, smallpox, typhus and typhoid fevers have a tendency to rapidly spread and more frequently at these times than any other, assume a malignant character. We know also that diarrhea and dysentery occasionally prevail as epidemics, but do these bowel affections at such times ever give rise to cholera? We know of no instance of cholera upon the continent of America arising out of these diseases and making its first appearance in the interior of the country. We hear of it first at a sea port, or more correctly speaking, we hear of it first spreading from a country where it is endemic, and causes are probably in operation which originate the disease. We observe it spreading through Asia, progressing westwardly through Europe, it appears at the western coast of that continent; it shows itself upon a vessel at sea, bound for this country carrying passengers from a country where the epidemic is prevailing; it appears amongst these passengers upon their arrival at one of our sea port cities; it then prevails at this city amongst its inhabitants and spreads along the thoroughfares leading from this point throughout the country; in 1849 from the south towards the north and east; in 1832 from the north towards the west and south, and associated with it as it passes over our country in many places, we see diarrhea and dysentery, but why it should assume at times almost entirely a dysenteric form is difficult to say—probably caused by some epidemic influence favoring the development of dysentery as before mentioned; however, it has occurred to me as a question worthy of consideration, whether the infection of cholera may not be slightly changed by the violence of the disease being expended upon certain parts of the system, for instance *when the force of the malady is directed to the large intestines producing dysenteric symptoms, whether the infection in this case would not be more likely to produce dysentery, and consequently spread a dysenteric form of the disease?*

What we consider the mild form of cholera is where there are well marked symptoms of cholera, viz., vomiting connected with discharges from the bowels of the sero-albuminous character, cramps, &c., but the disease yields readily to medicine and the patient soon recovers from the attack.—Such cases must have been so frequently observed by all who have witnessed cholera prevailing as an epidemic, that it is only necessary to call attention to the fact that cholera prevails in this form.

The malignant form of cholera wherever I observed it, presented the same symptoms, so well known, and accurately described in our medical works, that it would be superfluous for me to more than merely allude to them. The disease usu-

ally commenced with diarrhea, which was followed by vomiting and as it advanced we had the same profuse discharges from the bowels of a light watery or sero-albuminous character described by authors; the same shrunken and blue appearance of the skin; coldness of the surface, with profuse perspiration; failure of the pulse; cramps of the muscles; suppression of urine; oppression of the chest; failure of the voice, with but little derangement of the intellectual faculties. Sometimes the disease passed rapidly to a fatal termination with but little vomiting or purging; the other symptoms, however, being present, this would constitute a variety of malignant cholera.

It appears to me that I have observed premonitory nervous symptoms belonging to cholera which I have never seen described in any of our medical works. They do not always precede an attack of cholera, or always present the same appearance. I divide them for the sake of description into those of *exaltation*, those of *depression*, and those of a peculiar or an *anomalous character*. When the disease commences with what we consider symptoms of nervous excitement, there is generally an unusual exhilaration of spirits; the mind is clear, the thoughts are vivid, and the person in common language, seems full of life. This exalted condition of the nervous system is followed by a sudden attack of cholera. I do not think this excitement is accidental, or that cholera is the consequence of it, for, I have seen it in many instances, and particularly amongst children. My son had these exhilarated feelings the day before he was attacked, and appeared unusually full of sport until a late hour at night. The opposite symptom to this, the feeling of depression, or lassitude, which very often precedes an attack of cholera, is described by medical writers, and I believe is generally accompanied with diarrhea.

The other premonitory symptom, the one I wish particularly to direct attention to, is a peculiar nervous feeling which passes over the whole system and more resembles what I understand by the *epileptic aura* than anything else that I can compare it to. It is generally accompanied with an oppressive sensation at the stomach; difficulty of breathing and a desire for fresh air. Sometimes this symptom, accompanied with the oppressive sensation at the stomach and the other symptoms, comes on before the diarrhea and in those cases where they are present add greatly to the sufferings of the patient. I felt these symptoms myself, and have since observed them in others, frequently in children, who, while laboring under what I consider the same feelings, cannot lay still, they appear dis-

tressed, they raise in bed or change their position from one side to the other, make full inspirations, call for fresh air, and appear oppressed for breath. These symptoms are *paroxysmal* and generally precede the act of vomiting or discharge from the bowels or cramps; there seems to be a connection between all these symptoms, also with the failure of the pulse which often takes place at the same time. It was from my own feelings during the attack of the disease, which were different from anything I had ever felt before, that led me to observe them in others, and it appears to me that I have noticed in those cases which terminate fatally with but little vomiting or diarrhea, they were the prominent symptoms. We then consider that cholera was introduced into our state; that it has appeared in the form of diarrhea, dysentery, mild cholera, and a malignant form; that the attack is often preceded by peculiar nervous symptoms; that it is propagated by human intercourse, or to use a simile it spreads over our country as fire may be spread over our prairies, communicating from individual to individual, and raging with violence in some communities peculiarly susceptible to it, or where the infection becomes accumulated; in others again assuming the form of diarrhea or dysentery it may be so mild as scarcely to attract attention. In the mild form of diarrhea may not cholera exist in our cities, or in the south during the winter, and reappear again in its malignant form as season favors its development.

We find from reviewing the observations of our physicians, that locality has had but little influence over the progress of cholera in the state. It prevailed upon the healthy as well as the unhealthy localities wherever it appeared to have been introduced. In Dearborn county it prevailed in a malignant form on the uplands and in some of the healthiest situations, while at Lawrenceburgh, Hardington, and Elizabethtown, upon the low alluvial bottom land, it was comparatively mild, and in many other places upon the low lands which annually produce malarious diseases, the epidemic was scarcely manifest. These facts do not coincide with the report of Mr. Farr on the mortality of cholera in England. He remarks "that cholera reigned wherever it found a dense population on the low alluvial soils of rivers, round the estuaries of the Thames, the Humber and Mersey, the Severn, the Tamar and their tributary waters." He also says "that elevation of soil had a more constant relation to the mortality of cholera in London than any other known element." That cholera selects low, damp situations, we are taught in nearly all our medical works which treat upon this disease, but this is

not in accordance with the observations of a large number of our physicians or my own experience in the progress of this epidemic. Another statement made by Mr. Farr which is worthy of a passing notice, is in the language of the report "that the cholera was not generally fatal on the primary geological formations on the granite, the silurian or devonian systems, while Herefordshire, however, on the old red sand stone escaped, Cornwall on the South of Devon, on the same formation suffered severely." In this country it is upon the silurian formation that cholera has prevailed in its most malignant form, for instance at Cincinnati, Sandusky, Nashville, Louisville, St. Louis and Aurora, but it was not confined to this formation alone, for we see it prevailing upon the carboniferous formation at Evansville, Vincennes, Rockport and many other places mentioned in this report. These facts show that in this country geological formations have but little influence over the epidemic.

Cholera, however, in the west has been modified by season of the year; by sudden changes in the temperature and hygrometrical conditions of the atmosphere. It has uniformly, since 1849, subsided in the winter and reappeared again in the spring. Professor G. B. Walker, of Evansville, sends me a comparison between cholera as he observed it in 1832 and its last visitation. In reference to the season of the year in which it makes its appearance, he says that in its first visitation it was not so much influenced by season as it has been since 1849. He writes that "for the last four years it has appeared with remarkable regularity in the latter part of June or early part of July, and continued to prevail for four or six weeks with variable extent and malignancy, almost invariably, however, being much more rapid and fatal on its first appearance, and gradually growing milder and subsiding as it were into the ordinary epidemics of the season or climate." The Doctor also remarks that as he observed it in 1832 "the most striking peculiarity manifested by it was the suddenness of its attack. Patients were not unfrequently prostrated in the street from a state of good health by a sensation as of a blow over the stomach, and in homely but significant language were 'struck with cholera.' This sudden spasmodic or nervous seizure has never appeared to my observation so distinctly since the first outbreak of the disease in this country. Attacks of cholera without diarrhœa, an apparent contradiction, have not been observed since 1832 to the extent then exhibited." The Doctor also writes that from his observation "it has been more frequently complicated of late years than formerly with the prevailing epidemics. Amongst these compli-

cations may be named as conspicuous those with bilious diarrhea, dysentery, and several types of fever, such as remittent, congestive and typhoid. These complications made it necessary to modify the treatment greatly, but nevertheless did not augment the danger of a fatal issue, on the contrary the cholera part of the attack was mitigated by being blended with other pathological phenomena. The evidence of cholera complications in these cases, consisted of the presence of serous diarrhea with tendency to collapse. It may be proper, however, to say that although the mortality of the disease thus complicated, is not greater than the disease of 1832, it is perhaps about equally grave in its character, or in other words, while the purely cholera symptoms are less malignant than formerly, the additional disease raises the mortality about to the old standard."

All classes of the community have suffered from the epidemic, but our foreign population have been most severely afflicted. This was probably owing to their manner of living; to their imprudence in diet; to their intemperance; to being crowded together in ill-ventilated apartments, and not being acclimated.

Passing by the different theories of the specific cause of cholera, I will merely notice the zymotic hypothesis, or the one which considers the specific poison of contagious diseases, as acting upon the blood in the manner of ferments. This theory is probably now the most popular, and from the recent researches of Leibig, the most plausible; but we meet with facts which we find difficult to reconcile with this view of the subject. In the language of Carpenter, "the predisposing cause of zynatic diseases are all reducible to the one of three categories: 1st, Those namely which tend to introduce into the system decomposing matter that has been generated in some external source; 2d, Those which occasion an increased production of decomposing matter in the system itself; and 3d, Those which obstruct the elimination of the decomposing matter normally or excessively generated within the system. or abnormally introduced into it from without." If these views are correct, it appears to me that the disease ought to have prevailed in its most malignant form where we should suppose these predisposing causes would exist, such for instance, as upon our low malarious bottom lands, or in the dwellings along the banks of the muddy creek at Aurora, or near the distillery and hog pens in the same town, where more than seven thousand hogs were confined, but it did not. It prevailed in the healthiest portions of the town and on the healthiest highland ridges throughout the country, where

there was no local cause that we could discover, which would favor the development of the disease, and in some places where the inhabitants were perfectly healthy until the disease appeared to have been introduced amongst them. There is evidently a predisposition acquired to cholera which extends over whole communities and is independent of local causes.— *This predisposition is removed by the cholera itself*, for it is seldom that the disease prevails twice in a malignant form in the same locality even if the same local causes exist, unless there is a large influx of strangers.

In regard to the treatment of cholera we have not been able to obtain anything new. You have probably perceived that our physicians have treated the disease in accordance with the rules laid down in our best medical works; but the results are far from being satisfactory. All agree, however, in considering the disease perfectly manageable in the diarrheal form, but after vomiting, purging, and cramps have commenced, and the circulation has begun to fail, nearly half the cases under the best course of treatment at present known amongst us, terminate fatally.

