AN INAUGURAL DISSERTATION
ON
Epidemic Dysentery,
As it occurred in Warren County, Ten.,
During the Summer and Fall of 1851.

SUBMITTED TO THE PRESIDENT, BOARD OF TRUSTEES, AND MEDICAL FACULTY
OF THE UNIVERSITY OF NASHVILLE,
FOR THE DEGREE OF DOCTOR OF MEDICINE.

BY

W. T. BERRY & CO.,
BOOKSELLERS AND STATIONERS,
NASHVILLE, TENN.
Gentlemen,

I am giving you a history of the epidemic as it existed at an epidemic in Warren County, Tennessee, in 1850. I have thought a few remarks on the typography of this section may not be exceptions; especially, as it is a section about which little is known abroad. And it will also the better enable you to determine whether my views relative to the causes of the epidemic be correct.

Warren County is a part of a table land, extending across the state, from Kentucky to Alabama, running parallel with the Cumberland Mountain, which constitutes its eastern boundary. It is bounded on the west by the Camp Fork Ridge, Smit Mountain, Staned River, and Black River Ridge. The latitude of McMinnville, the county seat of Warren County, is about 35° 48' North, and about 8° 48' West from Washington. Its altitude above the sea, as given by the Barometer, is 761 feet. I think its height, above the common level of the counties of Smith, Wilson, Rutherford, Bedford, and Lincoln, cannot be less than 500 or 600 feet.

This region is called the Mountain District, the middle and southern portion of which has
have a gently undulating surface, which is occasionally broken by knobs of the mountain, which sometimes extend several miles.

These spurs are not quite so high as the main mountain but they sometimes attain an altitude of 500 or 600 feet. In their geologic composition, they resemble the mountain, with the exception of coal, which to my knowledge extends, had not been found in any of them. The rocks are principally calcareous, siliceous, and argenticous. The calcareous forming the base and the siliceous and argenticous the top. The timber is generally large and more abundant than on the mountain.

The soil at and near the base, is fertile, near, and on the top, it is more sterile. The water is of four kinds, limestone, freestone, tanner limestone, and chalybeate. The limestone being at the base, and the freestone & chalybeate at the top.

South of Carney Fork river, this table land is divided by an elevation, nearly appreciable, which extends from north to south, midway between the mountain and the ridges before mentioned, and is called the dividing ridge because it divides the waters of Elk & Colleens rivers, and
Bassen Fork, from those of Creek and Stony Rivers, Smith's Fork.

That portion of this table land which constitutes Warren County lies principally between this dividing ridge and the mountain. Consequently, the eastern portion of this land is more undulating & rocky, it is better watered, and the soil much more fertile, than that portion west of the ridge, which constitutes what is called the Bassen.

In the southern portion of the County, there is a stream called Hickory Creek, running from south towards north, which was originally a beautiful stream, with a brisk current, but in consequence of numerous mill dams thrown across it, its current has been greatly impeded, and its water rendered turbid. It empties into Bassen Fork, a very beautiful stream. The general direction of this creek, is from west to east. The water clear, current brisk. On this stream, McMinnville, the County City is situated, a few miles north of the Bassen Fork, and running in the same general direction, is Charles Creek, a short stream with rapid current. North of this creek and but a few miles from it, nearly parallel with it, runs Mountain Creek, which...
has a very rapid current. In the eastern portion of the County, between a long spur and the Main Mountain, through a narrow, very fertile valley, runs Collins' River. The current is strong, and the water during the greater portion of the year is clear, it empties into Caney Fork, which is the largest stream in the County. It constitutes the northeastern boundary.

There are but a few springs, connecting with these streams, but they overflow their banks to some extent, every spring. And these are many, through which they run. The forests are dense, timber large, thick underwood, and heavy annual foliage, on the low grounds and margins. Although there is a great variety of forest trees, the Oak constitutes a large majority, of which there are no less than fifteen varieties.

West of the dividing ridge, the surface is almost an uninterrupted plain. The greatest peculiarity of which is numerous basins of wetland called swamps. These basins are covered with a dense undergrowth, and in their center there is generally a pond, or small lake, the area of which does not usually exceed two or three acres. The subsoil of these basins is to a considerable
ent impervious to water, and consequently
and consequently during the heavy rains in the spring
they become the receptacles of a large amount of
water, both of which cannot drain off, and
is therefore removed only by evaporation, which is
usually effected by the first or middle of June.
The surface from which the water has been
removed is generally covered with a luxuriant
bush of grass & plants. There are few places
which seldom, some which never dry up.

The climate is mild & salubrious in general.
The temperature seldom exceeding 100 degrees
Fahrenheit, and seldom falling lower than
10° below zero. It is not therefore so cold, as
the altitude and proximity of the mountains
would indicate. During the cold weather
in January this year, the Thermometer at my
residence, 8 miles south of McMinnville, fell to
only 2° below zero, and was at the same in
McMinnville.

Last winter it will be recollected, was unusually mild, and there was in the district
neighborhood (the one in which I live) there than
an ordinary amount of disease, consisting of
Pneumonia, Scabies, Intermittent Fever, a
few Cases of Typhoid Fever, and a very severe
form of Catarrh which continued until
after the Commencement of Dysentery which
was in May.

The history of Dysentery, as it existed in
Warren County last season, as far as its in-
vasions & progress is concerned, does not differ
materially I presume, from its history in other
sections. It was however the most severe,
fatal epidemic we have had in this section
for 20 years.

I am informed by Dr. Hilly Smart,
A. Raine, & J. B. Morris, of McMinnville, Tennes-
see that the first Case within
their knowledge, occurred in the pleasant-
cove between Collins River and the Mountain,
six miles east of McMinnville, on the 27th
day of May. The first Case in McMinnville, accor-
ding to the 25th of May. From this it spread
I think gradually over every neighborhood
in the County. It was not until the 17th of
June 2d that I saw a case, which was at the foot of the spur of the mountain, 11 miles south of McMinnville. On the 22 of June it commenced. I saw two cases, one at the foot of a very tall spur of the mountain, 3 miles east, and the other on the top of the same spur, 3 miles S.E. of McMinnville. The first 4 third of these cases were malignant. The second was a mild case. For several days it seemed to be confined pretty closely. This spur & vicinity for it was not until the 7th day of August that I saw the first case on the High Creek and not until the 17th day of the same month that I saw the first case in the Rennes. About this time, I think it had become general in the county, and had attained its maximum severity.

The opinion of the medical gentlemen I have mentioned is, that dysentery existed here as an epidemic, for 6 months, and my own observation fully corroborates their opinion. And sporadic cases have accrued up to the time of writing this article.
It is perhaps worthy of remark, that although children were most obnoxious to its attacks, yet aged persons and those of broken down constitutions were not more liable to be attacked than those of middle age and of robust constitutions, nor were their cases more liable to prove fatal.

I have no very accurate means of ascertaining the extent, force, or this prevalence. Unfortunately not one of us who were engaged in the practice kept a diary and therefore we cannot give the precise number we were called upon to treat. But now I am in possession of every case treated and by physicians in this county. Yet, I think I am justifiable in saying they would not constitute more than one half of the cases which occurred.

The total population of this county is set down at 10,179. The population of McMinnville, is about 600. The number of attacks of malignancy in the town, was about a fair average. Some neighborhoods suffering more, others less. From the best
information I have, there were 13 deaths from dysentery in McMinnville. Now, if we assume that five per cent of all the cases which occurred in the county, both mild and malignant, proved fatal, which I believe will be found to be a very near approximation to the truth, then we shall have in McMinnville, 260 cases, and 13 deaths, and in the county, 4,410 cases and 220 deaths. This estimate I am sure is not too high. If it is, it may be in placing the mortality too low. In some neighborhoods, the mortality fell far short of this calculation, but in others, it exceeded it, amounting to 10 per cent, or in a few places more. But where the great mortality existed, it was in consequence of either neglect, imprudence, or inconvenience to a physician, wanting timely medical assistance. The mortality was much greater among children under two years of age than older children and adults. The younger the child, the more danger it was in. A lady of consequence living on Collins' River, 15 miles east of me, assured me that as far as her knowledge extended,
not one child under two years of age had recovered in that section.

The cause of this epidemic, I believe, to have been Malaria, and my reasons for believing it to be the following. It commenced in those sections which are of all others in the county, most capable of producing Malaria, and consequently the very parts where we would expect an epidemic to commence, the cause of which would be Malaria. Perhaps a more weighty reason will be found in the fact, that it was for a considerable time, confined chiefly much to the neighborhoods in which it commenced, and its malignancy was always greatest, when there was the greatest amount of vegetable matter in a state of decay. But thirdly, the most weighty reason to my mind is, that the premonitory symptoms were those, which are the result of Malarial poison.

I know there are some who doubt the Malarial origin of this disease; some who believe it to have been Contagion.
It is not to be expected that in a paper like this, I should answer all the objections which might be urged. One however I would notice, "That the cause could not be malignant because many cases, and some of them quite malignant, occurred in those who resided on the mountain and its slopes".

I answer that I saw no case in either of those localities (and I doubt whether any other person did) where there was not a farm on which there was not a large amount of decaying timber, generally fields just cleared near the residence, and every one acquainted with this subject knew that such fields are among the most fruitful sources of malaria.

I would also remark that from the time I saw the first case, I made close observation with regard to its being contagious, and I am satisfied beyond all question that as it existed here, it was not at all contagious.

The symptoms in the incipient stage were languor, a sense of fulness of the head,
Slight chilly sensations generally in the forenoon, loss of appetite, slightly fused tongue, tympanites, uneasy sensations in the bowels, gushing and other symptoms were variable in their duration, sometimes continuing for two or three days, at other times only a few hours preceding the eruption, which was generally made in malignant measles, by a distinct chill, followed by more or less febrile reaction, mostly accompanied with pain in the head and back, tenderness of the epigastrium, iliac, and hypogastric regions, tongue dry & slightly furred. Thirst increased, skin dry & hot in some cases, in others the head and chest only were prematurely warm, while the extremities were cool, pain in the bowels, especially in the flexure, extending as high as the sigmoid flexure of the colon, in some instances to the whole extent of the colon. The evulsions evacuations were sanguineous, or mucous-sanguineous. Urine scanty & highly colored in some cases, when there was considerable griping & a very frequent desire to pass stool. At the commencement, the respiration was not ordinarily much affected, unless the bowels
were perceptibly affected. The pulse became
founded with the febrile action, this was partly
stage of excitement.
At the disease advanced, and the second
or inflammatory stage set in, the symptoms now
all aggravated to a very great extent. The thirst
was now almost insupportable. The tongue
absolutely parched. Soreness had advanced
to extremely painful tenderness. The pains in the
mouth ulcerating in the extreme, producing
either nausea, or syncope, or both. The griping of
the rectum now amounts to torment, and the
most distressing dysuria, frequently existed.
The defecations from the bowels were generally
small and mucous. Bloody or hematochous,
which very much resembled the washings of
fresh meat, not much odor. Extremities gen-
ernally cool. Head and Throat hot; pulse quick
and frequently coarcted, appetite entirely gone.
In the third and last stage. The syncope was
increased. Extreme debility, and the most distressing
Dysuria, would frequently occur, saline evacues
now more offensive, highly offensive, dark or muddy
in colour increased, brisk tetter, pulse, restless
Anxious Countenance, Cadaverous inspiration.
Collapse and death.

There was one symptom peculiar to small children, which, so far as my experience extends, was invariably a mortal symptom. It was starting suddenly, throwing up the feet and gleaming the fright on the pelvis, as if it very nearly approaches the abdomen, and at the same time, screaming violently for a few moments.

The symptoms of the mild form of this disease, I think immediately to mention, as they did not differ materially from those called which occur sporadically any season.

The diagnosis of this epidemic was attended with some difficulty, for notwithstanding dysentery is ordinarily easily distinguished from any other form of disease unless it may be some forms of diarrhoea. Yet in consequence of these existing at the same time, many cases of a very severe form of catarrh, having almost the same symptoms and not infrequently resembling the loosely forming catarrhal diarrhea, it was not therefore always an easy matter to determine in the incipient stage whether a case would terminate in catarrh or dysentery.
When however, the alvine evacuations became sanguineous, or mucous sanguineous. This true character of the disease was at once developed, and could no longer be regarded as doubtful. The prognosis was also attended with difficulty. For although in ordinary cases of dysentery, the prognosis may be regarded as of minor importance, because the disease under such circumstances generally terminates favorably. Yet such was the malignancy of many of the cases, and such the insidious manner of its attack that independent practitioners should venture any other than a conditional opinion as to the result of even an apparently mild case.

There were many cases apparently mild, which many not withstanding every reasonable effort was made early in attack. As a rule, nevertheless, kept steadily on to a fatal termination. While many other apparently malignant in the commencement, yielded very readily to prompt treatment. So that the greatest precaution was necessary in giving an opinion as to the probable termination of a case.
The duration was variable, nothing like uniformity. Some cases apparently violent would terminate in a few days, others lingered for several weeks and proved fatal at last. I should think more died between the 6th and 12th day than any other time. The crisis was usually from the 6th to 9th day, but I saw it occur as early as the third day, in several cases, and in others was not felt earlier than the 12th day, and a few continued longer than that, who ultimately entirely recovered, while some passed into the chronic form which had been continued almost without interruption up to this day.

The treatment, adopted by those who practiced both protectively in this epidemic, was not by any means uniform. Each physician adopting that course which the symptoms seemed to demand. The mild form yielded very readily to the remedial agents ordinarily used in this disease. While the malignant form would frequently resist every means we were capable of bringing into requisition.

Dr. Hill and Smart, a Jew named Wiseville, informs me that they were more successful with 'Blue Pill, Spee's and Pia, as an Analgesic,'
and Salts, Magnesia as a purgative given every other day. "Than any other means they tried."

Dr. A. Pain, of the same place, informed me, "That in the early stage he relied on Blue Mass, Phrenium, &c. &c. in alternating doses. Having used Calomel in but two cases and derived no advantage from it in either. In Cases of acute exhaustion derived considerable advantage from the use of chalk pills, given freely. Also Phrenium + Magnesia, + a Solution of Gum Arabic drank cold. Let blood in some Cases with advantage, derived great benefit from Cupping & Leeching, also in an advanced Stage, from Blistering on the abdomen."

Dr. Barnes, N. also of Wrenville, informs me, "That he found the use of the above Magnesia as a purgative, with injections of Laudanum, Nuxt, and Spirit of Iron, poultices all the time to the abdomen, and Laudanum and Spirit of Iron at an anodyne, the best means he tried."

In my own practice, I endeavored to adapt my Remedies to the demands of the Case, being governed by the symptoms alone.
Regardless of the name,

During the first stage I used the saline and drenching or pungent solutions alternately, generally every two or three hours, until the stools ceased to be loose or mixed with blood. Then gave

Hydrargyrum Sera Bera. Combined with an

apie, strenna. I am safe and my esophagus disintegrated, and cupped the whole abdomen, would have used the cut of I had had lead them. But singly, I believe

the cup to be superior to the leech. Always using hot water applied to the surface of the abdomen, either by sponge or cloth previous to the application of the cup, and warm fomentations over the decomposed surface immediately after.

The use of the cup. In this stage also I found

the pyrethrum spirit or wood ashes a very

valuable article. This plan of treatment I found

to be potent indeed, to such an extent that at one
time I was almost ready to congratulate my

self with having discovered a plan of treat-

ment which if at all skillfully administered

would very seldom ever fail. But the loss of

three. Died in quick succession, all of which

were treated on this plan. Convinced me that
My hopes were delusive, although I had reasoned upon it with this plan alone. I knew that it was not a cure, and that the loss of one

In the second stage, in addition to the treatment I have detailed, I used warm baths, from which I derived considerable advantage. The active inflammation existed both under the dome and in some way for many hours, with scarcely any assistance, until the threat of pain was removed. I regard the application of hot water properly applied, as one of the most potent means that can be used to subdue intestinal or peritoneal inflammation. It is not because it diminishes the irritability of the muscular fibres, but consequently not only relaxes the part, so as to prevent spasmodic action, but also prevents it from an outburst or determination to the part. To relieve the toxicity, I used mucilage of Pennisetum, 

occasionally I found sugar, lead, or tannin very useful. In the last stage I found 

In the...
Colicums, Sugar of Lead, Tannin, Bitter, and

These cases attended with great gastric irritation,

Nitrate of Silver to be more efficient than

any thing else I could use.

If there is a specific

in the whole materia medica for this dis-

case, I frankly confess I am ignorant of it.

For although I endeavored to observe closely

the physiological condition of the patient, to

As to study the pathology of the disease,

Still, I was unable to procure a never fail-

ing remedy

I am Gentlemen, very respectfully

Your obedient humble

Etch, 1852.

J. B. Spriggs.

I did not resort to injection, being deter-

by either the Coolness of the extremities, or the

debility of the patient. In this however it is likely

I erred, especially in three cases attended with

Strong arterial action and delirium, a symptom

which I observe I have omitted to mention.