

AN  
INAUGURAL DISSERTATION

ON

*Typhoid Fever*

SUBMITTED TO THE

PRESIDENT, BOARD OF TRUSTEES, AND MEDICAL FACULTY

OF THE

University of Nashville,

FOR THE DEGREE OF

DOCTOR OF MEDICINE.

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OF

*Tennessee*

1855

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

## Typhoid Fever

I adopt the term Typhoid as the name of this disease, because the appellation appears to be coming more and more into general use by the profession. This term has the advantage of marking the peculiar lesions of the disease, while it is free from the objection of prejudging, by any implication its nature or character. The first description of its pathological lesions at all complete and satisfactory, was contained in a work published in 1804 by Prost. Some years subsequent to this, Broussais succeeded in establishing his brilliant and powerful but transitory dynasty. In looking back now upon the career and achievements of Broussais, it is astonishing to see with what much alacrity our science put on and wore the yoke which he fitted to her neck. The exclusive and hypothetical views of Broussais were ably controverted and successfully overthrown by Andral and Chomel and other pathologists. But it is owing to the great works

of Louis that we are indebted for the first complete and comprehensive description of Typhoid fever, a description so complete and comprehensive, that the labors of subsequent observers have hardly added to its materials or modified its proportions to any appreciable extent. although the researches of Louis were confined to the disease as it showed itself in the adult. but since a few years the Typhoid of children, has been carefully studied by Barthez and others.

*The cause and Symptoms.* Under this head I do not expect to discuss the various theories that exist upon this subject, but to give what I conceive to be the true Cause of this form of disease. I conceive the true proximate cause of this disease to be a poison, which is received into the circulation by absorption, which acts primarily and specifically upon the bowels or upon certain portions of this organ. called Peyer's glands. situated in the Ileum near the Ilcoecal valve, also upon

The brain and nervous system. The diseased state into which these organs are brought by the operation of the poison, deprives them of the power of communication to the nervous system that supply of nervous and sensorial energy, which is requisite to maintain the function of the system in a state of health. The organs deprived of their accustomed supply of nervous and sensorial influence becomes deranged by the detestious impression made upon them, which gives rise to various serious anatomical lesions. Anatomical lesions. There is scarcely a single organ in the body, in which signs of inflammation are not sometimes found after death from this disease, because it is one of the peculiarities of this affection or possibly of the febrile movement, which in this affection is of unusual duration, to develope local disease of an inflammatory nature. But still there are certain anatomical changes which are especially

characteristic of this fever, and which are so seldomest wanting or missing, that they are considered as almost essential. such for instance is the affection of the glands of Peyer, which is as characteristic of the disease in question, as the peculiar pustular eruption in Measles or Small Pox, It has in fact become to be regarded almost as a necessary test in post mortem examinations of this disease. Although the opportunity is seldom offered of ascertaining the condition of the glands of Peyer in the earliest period of the disease, they have however been examined at all stages after the sixth day. From the discoveries of post mortem examinations, the patches or mucous follicles are at first observed to be thickened, and their surfaces elevated above the surrounding mucous membrane, one, two, three, or four lines. the largest patches are from two to three inches in length, and from a half to an inch and half in width, the longest diameter being in direction with the in-

testine, some are smaller and more circular, with their edges clearly defined, smooth and regular, but sometimes irregular and ragged. Some dark red, some pale, and others of an intermediate hue. By Louis there are two varieties distinguished by the names hard and soft. The first very hard to the touch, and when dissected are found to contain beneath the mucous membrane, a layer of white or yellowish, firm, brittle matter, which cuts smooth and shining. The soft patches, are softer, and less elevated, without the whitish layer above mentioned. They vary in number from one to thirty, generally appear opposite the mesentery, do not all originate at once, but successively, those nearest the iliocecal valve first appearing, and afterwards those higher up. The hard patches may undergo resolution, but the soft always ulcerate. in the former the matter may be deposited under the mucous membrane by supuration, and separate from its connection, when

The mucous membrane is thrown off by the ulceration. The floor of the ulceration varies according to the malignancy of the ulcer. Sometimes it is the muscular coat - and as it progresses it changes its floor - sometimes progresses so far as to produce perforation of the bowels. The perforation is produced by, either the progress of the ulcer, or by mortification of the uncovered peritoneal membrane or by rupture from force applied within the bowel - The lesions of the large intestines are few. Ulceration is found in about one third of the cases. Sometimes the flatus collected or generated in the lower bowel is considerable, pushing up the liver, stomach, and diaphragm, beyond their usual positions, causing great uneasiness to the patient. Brunner's glands of the small intestines are also frequently ulcerated, but not near so often as the aggregated mucous follicles - The mesenteric glands appear to be as frequently affected as the mucous follicles. They appear to take on the

disease at the same time. The Peyer's glands do so, and return along with these to the healthy stage. They become redened, enlarged and softens, and oftentimes exhibits traces of pus - though rarely in sufficient quantity, to form an abscess. The lymphatic glands also becomes affected, enlarge and rendered but less frequent and in a less degree. The Stomach Oesophagus and pharynx, each sometimes exhibits signs of inflammation after death. The Spleen. Liver; Pancreas; Salivary glands; Urinary apparatus and sexual organs, all becomes diseased more or less. The Spleen is almost always atttered or changed. which attteration is enlargement and augmentation of its volume, sometimes it increases four or five times its normal size, but sometimes it is diminished in size, and frequently softens but seldom suppurates, its color is also changed but its envelope or surrounding membrane is never changed. The liver. The only attteration of



This Organ consists in softening, although, there is no constant or uniform alteration in the quality of the bile contained in the gall bladder, but sometimes the bile is found to be abundant, with a reddish or greenish color, again it may be dark of various shades, and less abundant, less liquid and viscid, occasionally the mucous membrane lining the gall bladder may become slightly inflamed, and the bladder containing pus. The pancreas salivary glands; urinary apparatus; and sexual organs, are found generally in a state of health or in a healthy condition, the lesions which they occasionally exhibit, are such as occur in other acute affections. The heart and aorta becomes frequently more or less changed, the heart, becomes diminished in volume, and softens, it becomes of a pale red color, extending down the aorta to variable distances, the tissue of the heart, becomes easily torn and broken down. The Blood. The most

frequent and serious alteration of the blood consists in the diminution of the Fibrin.

The bronchia or bronchial tubes is found sometimes after death to be red, but seldom found ulcerated. The lungs, sometimes this organ becomes affected, though, neither the symptoms nor the lesions go to show that this organ plays any very important part among the numerous complicated phenomena of this fever.

Symptoms. This is an acute form of fever, also an acute affection, occurring most frequently in persons between the ages of fifteen and thirty years, sufficiently previous to the former period, and but rarely after the fortieth year of life. attacking at least in cities and amongst adults, in a large majority of instances, persons who are recent residents; rarely occurring twice in the same person; great deal more common in some countries, than others, but appears

not to be confined to any geographical localities or regions, prevailing at all seasons of the year, and in all climates, but most common in autumn, than any other season of the year, and in temperate and northern, than in the southern and hot latitudes. Oftentimes sudden and sometimes gradual in its access, accompanied in its commencement with chills or rigors, not usually severe, with more or less fever, and increased quickness of the pulse, with accelerated respiration, slight dry cough, with pain in head, back and extremities, dull expression of countenance, more or less wakefulness, and watchfulness, with giddiness ringing or buzzing sound in the ears, occasional epistaxis, great loss of muscular strength, and in very grave cases, twitching or subsultus tendinum of the muscles, more especially those of the arm, forearm and hand, with entire

high and burning. frequently unequally distributed over the surface. scattering as it were. the extremities moderately cool. head and body excessively hot. one cheek of a deep red color and very hot, while the other remains pale and cool. and while the heat and color subsides in the one, it appears to have a peculiar tendency to attack the opposite side in the same manner, this peculiar heat and color usually extends to the ear and affect it in the same way and conjointly. This flushed appearance of the cheeks does not appear to be peculiar to any period of the disease. In the latter stages of very severe cases. the intensity of the morbid heat frequently diminishes. in mild cases it is not often very high even in their early periods. oftentimes very irregular. coming on at different and uncertain times of the day. though twice each day with

with entire loss of the appetite: with excessive thirst; the tongue sometimes has its natural appearance, but more common with a dark, dry, red, glutinous, cracked, and trembling state of the organ. Sordes upon the teeth and gums. frequent diarrhoea. abdominal pains and tenderness upon pressure. the latter most marked in the right iliac region. The chill or rigor, the sentinel of all febrile diseases, is not generally very severe. is present at the commencement or very early in this form of fever. occurs most frequently in the course of the day, and in a majority of cases is repeated frequently during the early period of the disease. Following the chill or rigor, and in the intervals, there is almost always increased heat of the skin, which varies very much in different respects sometimes moderate, and uniformly diffused over the body. but in others, the heat is morbid

marked exacerbations, more especially in the early part of the disease, more so in the evening than morning, during the intervals of the febrile exacerbations the skin becomes moist in mild cases, but very slight in severe cases, sometimes is limited to a very short period, more especially in the morning. in the evening the exacerbations are most marked and the sweating stage is of much longer duration sometimes this stage is very profuse and confined to certain portions of the body, and at others extending over the whole surface. The disease as it advances exhibits the ordinary form of fever, such as frequent pulse, heat and dryness of the skin, flushed face, pains in head, back and extremities, loss of appetite, thirst and great general weakness. The pulse though sometimes but moderately accelerated not exceeding 90 or 100 per minute of considerable fullness. In females very frequent small and compressible, oftentimes amounting from

110 to 120 or more. per minute. the flush in the face is of a more purplish tint. than in most other forms of fever. sometimes this flush is absent. and if so. the complexion becomes of a dusk hue, with dullness or heaviness of expression. which is very slight in some cases. but much more striking in others. with headache in some degree. very seldom absent. and very frequently the chief subject of complaint. always pain back and extremities. with feeling of universal soreness if bruised or greatly fatigued. oftentimes restlessness. with want of sleep. with occasional epistaxis. which is generally however slight with hemorrhage of the bowels. which however is slight. Tympanitis. appears to be always present. sometimes to a great extent. producing pain. and distress. then again not so bad. it seldom begins with the disease. but usually sets in about the sixth day. sometimes as

early as the third. At first there is only a very slight increase of tension of the abdominal parietes produced by flatus generated in the Colon. it increases as the disease advances, sometimes producing great distension of the abdomen, becomes very troublesome to both patient and attendants.

Diagnosis. The diagnosis of this disease can never be founded upon a few positive physical signs. ~~like~~ some other disease. The most characteristic symptoms of this disease are the frequently slow and insidious mode of attack, with diarrhoea at the commencement or very soon afterwards. The dull heavy expression of countenance, the peculiar dusky hue of the face, with continual cough more or less severe, and bronchial rales with tendency to epistaxis, and after a certain period say for instance the seventh or ninth day, the dryness and diminution of the secretions, the rose colored eruption, the sudamina, the



tympanitic abdomen. The diarrhoea. The stupor or delirium, and various other signs indicative of the typhoid state. The enlargement of the spleen. The duration of the disease exceeding that of other diseases or fever, is also an excellent and important diagnostic character.

For the first three or four days, it is often impossible to decide with certainty upon its characters. Therefore a hasty decision at the commencement should be avoided always.

Prognosis. Typhoid fever upon the whole must be considered a very serious disease. The prognosis as well as the diagnosis of this disease is a complex problem into the solution of which in each individual case, there enters a great phenomena. Some epidemics of this fever are very mild, but again others are very severe and fatal. The grade of its severity as an epidemic differs greatly in different years.

The most unfavorable symptoms are delirium  
profound coma, stertorous breathing, excessive  
subcutis tendinum, epileptic spasms, which  
occurs but seldom, rigidity of the limbs and  
eyelids, abundant diarrhoea, excessive hemorrhage  
of the bowels, involuntary discharges,  
great prostration, extreme frequency of the pulse  
amounting to 130 per minute. Coldness and  
clamminess of skin. Colligative sweats  
and great abdominal distension. The  
most desperate state is that of intestinal  
perforation, and must always be guarded  
against. The favorable symptoms, are dimin-  
ished frequency of the pulse and heat of the  
skin, increased consciousness and interest  
in surrounding objects, restoration of healthy  
secretion, and a disposition in the tongue  
to become moist and clean. The younger the  
patient, the more favorable is the prognosis.

## Treatment;

There are few diseases of equal frequency and importance the treatment of which is more unsettled than that of this disease. The therapeutics of which has attracted within the last few years more attention than this, in any other disease. Various and to some extent opposite modes of management have been adopted by different authors and practitioners. They have been conducted on a large scale, for the most parts in a fair way or discovery of the truth. But they have not as yet resulted in the establishment of any uniform and satisfactory method of treatment. There seems <sup>to be</sup> but little unanimity and coherence in the opinion and conduct of different practitioners. Under such circumstances as these it is somewhat difficult to decide upon the best course to pursue in treating of

is much preferable, and should the evacuation be spontaneous and free no other medicine will be required, but if they should be scarce and scanty, means should be employed to procure at least one evacuation daily, Using the mildest laxatives aforesaid, Magnesia is excellent, more especially if there should be any sourness of Stomach, or breath. Rheubarb is a very appropriate remedy in certain stages of the disease, more especially in the latter stage. But should the Stomach become too irritable for cathartic medicines, the same object may be performed by an Enema. They should be very mild, especially in the first stage of the disease, in the advanced stages when the tympanitic tension is considerable, may be advantageously combined with Oil Turpentine. After the bowels has been thoroughly evacuated, the next

the subject in a dissertation like this. It is impossible within any reasonable limits to describe in detail all the different plans of treatment that have from time to time been adopted, nor those that are still pursued together with their alleged results.

As Diarrhoea being the most frequent symptom, or if not diarrhoea an unusual susceptibility to the influence of Cathartic Medicines, it therefore becomes requisite not to administer at first a very strong or active cathartic, on account of the predisposition of the bowels to run off - although the bowels should be thoroughly evacuated, to obviate the injury arising from the contact of irritating matter with their living membranes. A dose of Castor Oil or any mild cathartic, small dose of Sulphate Magnesia, but there should be much irritation of the intestines, Castor Oil

indication is to obviate the febrile symptoms. Should the cases be simple and benign, refreshing and refrigerating drinks should be employed, in such quantities as the patient desires, taken in small draughts at short intervals.

When the abdomen becomes painful upon pressure emollient fomentations, poultices, should the skin become hot, cold affusions, such as vinegar and water sponged upon the surface of the body, accompanied with mucilaginous injections several times per day, if there be pain in the head with tendency to settle upon any organ, and in a plethoric condition, I should bleed freely from the arm, and if that did not relieve the pain and subdue the suffering, apply cups to temple or on the mastoid processes, and should there be a disposition to drowsiness and disturbed sleep, apply cold applications to head

and use hot poultices and sinapism, combin-  
ed with fresh air, cleanliness and quietude.  
The distinguished Chomel was of opinion that  
even in mild cases moderate bleeding at the  
commencement of the disease was of great  
utility in preventing the development of  
ulterior complications, and exert a great  
influence favorably towards the march and  
termination of the disease. If headache or  
pains in the abdomen be very severe, leeches  
might be applied below the mastoid process  
for the former, and near the anus for the latter  
both with great propriety. In the inflammat-  
ory form of the disease I should adopt a  
much more decided antiphlogistic course  
adapted to the intensity of the symptoms  
and the age and vigor of the patient, with  
repeated bleedings, if the patient be plétho-  
ric, with application of leeches, and an

entire abstinence of all kinds of diet, especially those of a stimulating character. Should the disease be marked by Biliary symptoms such as a yellow fured tongue, bitter taste, nausea and vomiting of bile. Constipation. The same general course is pursued as in the simple form.

In the anaemic form of the disease, where the failure of muscular strength is extreme indicated by difficulty and languor of all the voluntary motions, feebleness of voice sinking of the features, fetor of the breath weakness and fainting in the sitting posture. smallness and weakness of the pulse it becomes necessary to administer more or less frequently, according to the number and frequency of all these symptoms. Tonics; aromatics; and cordials; The mildest generally indicated first, just



sufficiently strong to stimulate and support the system. In the advanced stage tonics, and stimulants both are requisite and essential. In the administration of these medicines the practitioner should always be influenced by the state of the pulse and skin. Should the pulse be slow and feeble, skin cool, tongue and teeth incrustated with dark sordes, there can be no impropriety in the use of Stimulants. But should they, after being administered augment delirium and stupor, and increase the frequency of the pulse, and heat of the skin, instead of moderating them, they should immediately be dispensed <sup>with</sup> Some of the preparations of bark is very good. Sulphate of Quinia may be employed with advantage, more especially in connection with Serpentaria and Oil Turpentine, though they should be used in very small and repeated doses, and should be omitted if found to disturb the stomach. Quinia is

frequently used by itself as a tonic to give tone  
to the blood and to strengthen the system.  
If there should be great *subcillus tendinum*. Nervous  
restlessness & jactitation, antispasmodics may be  
administered with advantage, and frequently  
with entire relief. Musk, *Asafoetida* & Camphor  
are some of the antispasmodics, most frequently  
used. Mercury is recommended by almost all  
authors at certain times of the disease, and in  
very small doses, repeated in order to produce  
Stygalism, but this object is seldom accomplish-  
ed. Opium is an excellent article, more especi-  
ally in the latter stages, it proves most useful  
by its stimulant powers, and serves throughout  
various others purposes important to the prac-  
titioner, such as relieving nervous disorder  
promoting sleep and quietude checking the  
diarrhoea, and inducing perspiration.  
Nonindicated when the pulse is full and