An Essay on Entero-mesenteric of Typhoid Fever By William H. Seip of Pennsylvania. Presented to the Faculty of Jefferson Medical College For the degree of Doctor of Medicine at the coming commencement, in March 1859.

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10th June

Selma, Texas
Enteric-mesenteric or Typhoid Fever. This is a continued fever of a low type, having peculiar symptoms, and characteristic features. The disease sometimes begins abruptly by a chill, followed by the usual symptoms of fever; but it occurs in this country it generally comes on with premonitory symptoms, so that it is often difficult to fix the precise point of its commencement. The patient complains of great uneasiness, weakness, trouble of his limbs, and often a little head ache. If the tongue is examined it will be found to be coated with a white fur; these symptoms continue a variable length of time, being aggravated at night, about the fourth day there is increased irritability, the pulse is somewhat accelerated, being from natural up to one hundred in the minute, and generally very irregular; there is complete loss of appetite, thirst, and great weakness, head ache is seldom absent, and in some cases it is the chief complaint. Sometimes there is much restlessness with want of sleep, a characteristic symptom is bleeding at the nose, diarrhoea is not uncommon, but generally comes on in the beginning; the stools are of an amber colour and in the last stages of the disease become bloody, as the disease advances these symptoms become aggravated, the pulse is more frequent, and strong; the skin hot and dry; the tongue, dry and becomes red at the tip and edges, there is pain in the right iliac region, with a gurgling sound upon pressure; tenderness is also present, the abdomen is grossly distended so as to present a convex outline from the uniform cartilage to the pubes; when the patient lies on his back, there also appears about this time symptoms of fever...
the urine is sometimes changed, it is nearly high colored and offensive.

of Bronchitis or Pneumonia, if the surface of the abdomen is examined, about the seventh or ninth day, a characteristic rose colored eruption will be discovered, resembling flea bites, which can be dispersed by pressure; this eruption must not be confounded with the petechia occurring in Typhus fever, which is essentially an effusion of blood into the vascular tissue, and does not disappear upon pressure; at the same time, or sometimes not until a week later, a crop of vesicles will be detected upon the neck and throat called subcutamina. The nervous symptoms assume a more decided character. Delirium or puerperal fever takes the place of the fever headache of which the patient complained of. Ringing in the ears followed by dullness of hearing, amounting sometimes to deafness. The eyes are injected, the tongue becomes incrusted with a black coating, which often cracks and peels off, leaving the raw surface exposed, and the teeth are covered with dark pessaries. The pulse becomes exceedingly frequent and feeble, the surface is either hot and dry over the whole body or hot in some parts while it is cold in others; an unpleasant odor often escapes from the body; subcutaneous tenderness, twitching of the facial muscles, and even spasm from paresis sometimes make their appearance. At the patient becomes more feble he0 slips down to the foot of the bed, he ficks at the bed clothes or imaginary objects in the air, mutters half-formed delirious sentences or exhibits a profound coma, and often, under the influence of a patent delirium, he arises from his bed and pulls guards, probably reaches his door and falls down exhausted. There are involuntary evacuations of menses from the bowels or other mucous surfaces, with petechiae and vesicles upon the skin, with great liability of the skin to sloughs, sometimes in the same
Of the second week, the patient is suddenly seized, without any premorion of danger, perhaps in the midst of convalescence, with violent pains in the abdomen, which is exceedingly tender to the touch, vomiting of green bile, matted, a small fluctuating pulse, syncope, constipation, and edemae of the extremities, the bowels are drawn up and the face assumes an anxious expression, a collapse of the circulation and of the surface precedes death, which takes place usually within a day or two, but life is sometimes prolonged a week, the cause of these symptoms is perforation of the intestines and escape of its contents into the cavity of the peritonaeum, producing inflammation. The most cases are more liable to this than the aggregated, and is almost uniformly fatal.

Anatomical Characters. — It is almost impossible to find a single organ of the body that may not be the seat of some anatomical lesion, those which are considered characteristic of this fever, however, are thickening, softening, and ulceration of the glands of Peyer, commencing near the ileo-caecal valve first, then those higher up. Enlargement, softening, and ulceration of the mesenteric glands, those corresponding with the most patches are most affected, the glands are reddened, enlarged, and softened and sometimes exhibit traces of pus. The solitary mucous follicles of the ileum, frequently denominated the glands of Brunner are usually affected in the same manner as the glands of Peyer, the lymphatic glands elsewhere are also sometimes enlarged and reddened, but less frequently and in a less degree, than those corresponding with the glands of Peyer.

Other lesions meet with are ulceration of the pharynx and epiglottic cartilage, softening of the spleen, sometime of the liver and kidneys, hepatisation of the lungs, softening of the heart and sometimes inflammation.
of the brain with effusion, the blood drawn in this disease is deficient in fibrin, and is said by some authors to contain an excess of blood corpuscles, being contrary to ordinary inflammation.

Causes—Of the immediate cause of this disease there is little or nothing known; the circumstances of its production are very diversified. It attacks all persons rich and poor, though it is certainly often generated where a number of persons are crowded together, with unsuitable, or insufficient, food, and confined, and infected air; by some it is thought to be contagious, but the weight of opinion is decisively against this view, since it is very seldom if ever communicated in isolated cases. The predispositions are age, sex, locality, and idiosyncrasy, attacking strangers more frequently than old residents, so that it has been termed the stranger's fever. It is generally a disease of the young, early attacking persons beyond thirty years of age, and almost never after fifty, male persons more liable to this disease than females; it may occur at any season, but most commonly in the autumn and winter. It is generally admitted that it occurs twice in the same person, hence perhaps its comparative infrequency in the aged. Those who are likely to have the disease will have it before they have attained middle life.

Diagnosis. The most characteristic symptoms of the disease are the slow and insidious attacks; the duty line of the Countenance—diaphoresis; the tendency to dysentery; the gurgling in the right side jaw; stupor and delirium; and after the seventh or ninth day a rose-coloured eruption; the lymphatic abdomen, degrees of the tongue, and lastly by the duration of the disease preceding that generally of all other fevers, and the peculiar musty smell when the skin is dry, and acid when it is moist. All these symptoms...
are not necessarily present, the diagnosis may be certain though many of them should be absent, a hasty decision should be avoided at the commencement of the complaint, many fevers resemble each other in the beginning, and for the first three or four days of this fever it is almost impossible to decide with certainty as to its character.

Prognosis: Not even the mildest cases can be looked upon as free from danger, while on the other hand, there is no condition so low as symptom so fatal as death should be considered invariable, it is only on articulate moment that the case should be given up, the most desperate state is perforation of the intestine. Among the unfavorable symptoms are constant delirium, a belief in the part of the patient that nothing will help; a sudden shifting of position of the body; rapid coma, stertorous respiration; great subcutaneous exanthema of the limbs; profuse diarrhoea, or hemorrhage from the bowels; great irregulation and frequency of the pulse, and excessive tympanitis. The favorable symptoms are absence of the diarrhoea, diminished frequency of the pulse and heat of the skin, increased consciousness and interest in surrounding objects; a respiration in the tongue to become clear. The younger the patient and the better his previous health, the more favorable is the prognosis.

Treatment: This fever cannot be cut short by any treatment, but may be modified by proper means. A emetic given in the commencement generally relieves the distressing head ache, by emptying the stomach of all irritant matter and equalizing the circulation, and there is often diarrhoea or a tendency to it from the commencement, it is not advisable as in most other fevers to begin the treatment with such
very active purge, yet the bowels should be thoroughly evacuated, in order to abate the injury arising from the contact of irritating matter with their lining membrane. Among the best cathartics that may be used are calomel combined with phialarb or castor oil, or a small dose of the sulphate of magnesia, will generally suffice, when there is much existing irritation the castor oil should be preferred, when there is pain with the diarrhoea fifteen or twenty drops of Laudanum may be given with the oil, the diarrhoea or tendency to it should always be borne in mind by the practitioner, and all irritating and drastic cathartics should be avoided. Throughout the complaint the bowels should be attended to, if they are open, no evacuating medicines will be required, on the contrary should they be scanty or wanting one full discharge should be procured daily by proper means.
The mildest laxatives and those in small doses will be sufficient, one or two drachms of Epsom salts, a Willis powder, or half or two of castor oil may be given, and repeated if necessary. When the stomach is very irritable an enema may be used with the same effect as with the cathartic medicine, these should be mild in the beginning but towards the latter stages they may be combined with the oil of turpentine, the bowels having been properly attended to, the next thing is to abate the febrile symptoms, this may be done by perspiration, when the pulse is full and strong, and there is pungentume determination of the brain, though as a general rule it had better be omitted; it cannot arrest the disease, the protracted duration of the disease must here also be borne in mind, and no
blood drawn unless imperatively demanded. Leeches
and cups to the head, and to the right iliac fossa
may be advantageously employed, where there are
evidences of congestion in the first, or of inflammation
as evidenced by pain and tenderness, in the second
 locality. Diaphoretics are useful throughout the complaint.
The best is the neutral mixture given with tonish
violet antimonial or sweet spirit nitre, in the beginning
of the disease, and the sparte's mandreri and
vitriol in the latter stages. For the heat of the
skin cold sponging if it do not chill the patient
is an excellent remedy, and the internal
use of ice is often very grateful: an enema of
vinigar and water has in some cases relieved the
head; in cases attended with much delirium, diluted
spirit may be substituted for pure water. Cold application
to the head by means of ice in a bladder are very
practicable in relieving the pain and delirium. The
hair should be shaved off, and if the head be cold
while delirium is present "Chomel recommends the appli-
cation of warm fomentations; should there be much
abdominal tenderness a few ounces of blood may
be taken by leeches, followed by the application of
warm fomentations or emollient calthiaceae. If
the delirium be not too great it is best to let it alone
but if it be excessive, Opium combined with any
of the astringents as Khatamy, laudanum, or alum if this
does not arrest it apply cold cups or what is bet-

The Neptune griddle made by wrapping out
the middle of a sheet in cold water and wrapping
it around the patient, then letting the dry ends
cover the abdomen to prevent evaporation.

Syrup of Hoffmann or ammonic, Camphor water, or opium
if not contra-indicated. In the advanced stage
of the disease when the urine is scanty, the tongue dry, and skin parched, when sores appear on the gums and lips, and there is delirium, or increased slumber with abatement of the vital action; no remedy is so effective as mercurial, given to affect the gums slightly, blue-salm, combined with jpecuanga in small doses given at short intervals, tends to soften the skin and correct the disorder; erection, Calomel may be used if preferred in doses of a grain or part of a grain under the use of mercurial, the skin becomes rela-axed, tongue not unfrequently become moist, and all the symptoms changed, and the patient recovers without further treatment. Should the disease not yield, especially if the tongue remains dry, and the abdominal distress diminishes, Dr. Wood strongly recommends the use of turpentine, particularly in that stage, when the tongue, instead of evening gradually from the edge and tip, sets rapidly upwards first from the middle or back part of its surface, which is left smooth and glossy, it should be given in doses of from five to twenty drops every hour or two, for two or three days, a little brandy may be added if it distorts the stomach or bowels. If the debility increases, the patient's strength should be supported by tonics and stimulants; the point when the patient can eat is immaterial. In this we may consider the taste of our patient, beef tea, or beef essence, wine whey, milk punch, together with the use of gramin, opium, rectifying in the exigencies of the case may demand, in dynamic cases, gramin is the best remedy, though vomiting must be prevented by subcutaneous pressure, refuse enemas by plunging the rectum, and in case perforation of the intestines occurs.
must be had to large doses of opium, for elevation of the glands of Rayer; minute of silver in quart grain dose in pill, given every two hours, is highly recommended by "FInstrument. In excessive subsultus, great pains red lesion, retention. The anti-spasmodics have been recommended, as Aconite, Muriq Camphor, Tincture of Valerian. For stiffness the common brews yeast is given to be the best remedy, given in table spoonful doses. In cases of pleuritic inflammation from intestinal perforation, the only hope is in the use of large doses of opium, prepared by Graven and Stokes, in connection with perfect rest, and avoiding all substances which can in any way disturb the bowels, It is of the utmost importance to attend to the state of the bladder, and if there be retention of urine to draw it off with the catheter. When there is reason to believe that the disease is complicated with Diabetic or intermittent fever, and especially when under such circumstances of hemorrhage intermittent, sulphate of quinna
should be used without hesitation, to correct the state of the blood. Chlorine may be employed in some form, the patient should be fomented with something containing chlorine as Labarague disinfecting liquid or the chlorinated soda. The management of the patient during convalescence is not less important than during the progress of the disease. The chief danger is that his desire to get up and his wish to eat animal food, should be too soon indulged, the latter of these errors is known frequently the cause of a relapse than any other circumstance, until the tongue is quite clean and moist, and of its natural color, and the pulse has lost all its hardness, the patient must be kept on broth, jellies, puddings, and preparation of the well known—
faroucous article of food. Then he may begin with some boiled white fish, and so gradually eat his way through chicken, mutton, beef, to his ordinary diet again. He drinks cold lemonade, orange-ade, carbonic acid water, and pure ice water in moderation. Throughout the whole disease the greatest attention should be paid to cleanliness and ventilation, and when the atmosphere cannot be purified by these means recourse may have to chloroform the beds must be attended to and the debile which is apt to remain is best treated by quinin and salts.