AN INAUGURAL DISSERTATION
ON
Enteric Fever

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

BY
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OF
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To Prof. H. K. Bellay

This essay upon

Enteric fever is most respectfully dedicated
as a token of esteem for the graphic and
lucid manner in which he so thoroughly
delineates disease in all its varied phases
by one who entertains the most profound
respect for his abilities as a teacher
and benevolence of heart by the author.
This is a disease about which so much
has heretofore been said and written by a thousand
different individuals, at perhaps as many different times
that I feel almost assured or at least I fear that
I am near enough, as it were in prospect of one of
the most noble, honorable and beneficent professions
ever followed by mankind. (As I conceive) shall
not be able to advance one single idea that has not
heretofore been set forth time and again. But methinks
and all this I believe long continued custom with
all regular medical institutions has now made it an
universed rule that all those applying for the degree of
M.D. shall be required to give their views relative to some
medical subject and those views must then be submitted
to the inspection of a number of high-toned medical
gentlemen whose duty it is to judge of them. Consequently
I will now proceed to give a few lines
relative to a disease commonly known by the appellation
of Syphilitic fever at the same time feeling my other
inability to do justice to so important a subject as the one upon
which I propose writing. Yet I sincerely hope that if I be
not able to advance any single new idea that I may at
least be able to enumerate a few simple facts. Cephalic fur
is a disease that makes its appearance frequently in the whole
Western world whose approach by many (even scientific men)
is looked upon with fear and trembling about which and
the treatment thereof one man as yet I can not how-
scientific he may be has ever known too much. But
To the contrary it is a lamentable fact yet it is even too
tru that this disease by many at the present day is but
little understood. It is a fact with known too all sci-
the Medical authors and Speakers of the present age. That
This affection known most commonly by the name of
Typhoid fever is a serious disease presenting an almost
numeroally diversity of symptoms at the same time long
certain symptoms by which the experienced physician
or well trained student may be enabled to recognize it.
It is said by some authors to be the ordinary variola.
fever of Europe and of those portions of the United States in which the Asiatic or bilious fevers do not prevail, and that it is more or less mingled with the latter within their own special limits. But this fever, unlike many others, has no boundary or line by which it is gradually circumscribed, yet it is perhaps as much a fever of the north as malaria is of the south, but we often grow very often met with the disease elsewhere than in Northern latitudes and it is more than probable that it may be found more or less throughout the whole inhabitable globe. For it makes not in what direction south and then our fashions either North, South, East or West, by diligent search and patient inquiry we may be enabled to find the most horrible affection; the enteric fever is generally found to spread most in high lands with a gravelly or sandy substratum.

But there is no swamp to damp, or mountain so high, or valley so low, or desert so dry, as entirely to shield its inhabitants from the danger of this fatal affection. The home of bilious or enteric fever is yet remains unsettled.
It has by different Authors received a varied number of Names by which it is called Contagious or Common Contagion fever. It is a fever from various causes and is understood to be the same fever as it. But as to the name of another but little do we know what organ or deranged and the Remedies requisite to the restoration of the sound to a normal or healthy condition. Yet it does seem to ind upon the whole that from among the many names given to this disease the most suitable to select should be that of contagion for it is certainly a point entirely beyond doubtful consideration that the intestinal affection is as much characteristic of the disease as the eruption is of Scrofulous Small Pox or Measles. The eruption before sometimes begins abruptly by a chill or cold stage. This being generally followed by all the usual symptoms of fever. Though perhaps more frequently it comes in more insidiously gradually increasing so that it is a matter almost of impossibility for the Patient or Physician to fix or point out definitely the period of its commencement.
The patient often complains of feeling somewhile, yet can
hardly tell why or how. If we interrogate him closely he
will answer perhaps that he feels much fatigued and
complains of some stiffness in his limbs. Perhaps a dull ache
in the back, together with some slight aching in the head.
Still he will not admit that this aching amounts to an
headache. Sometimes he complains of a tugging or uneasy
sensation in the back portion of the head neck and shoulders.
He appears stupid and listless. Day by day (the attention
to what is going on around him) the patient will often
have slight chills and these chills will continue to increase
in frequency and severity until finally in the aggregate they
will form a distinct, and well-defined chill. The pulse is
generally somewhat accelerated. The skin is warmer than
natural. The face at times a little flushed. The tongue is
generally Coated with a thin, whitish film. It is often
somewhat increased in thickness and diminished in width,
being longer than natural and rather pointed.
The appetite though not entirely extinguished is materially
The patient may thus continue to go on for a week the symptoms gradually continuing to increase with often times a tendency to a daily remission before he will acknowledge that he is really sick or for himself compelled to keep his bed at the close of the first week or beginning of the second or after the disease has completely formed itself. These chilly sensations if they existed previously cease and perhaps return no more except from the recurrence of some unlooked for or accidental inflammation. The bowels during the first week are most generally in a laxative condition of the ammonia to banana or if not they are almost invariably drank mostly moved by cathartic medicines than they are in most other diseases or if we administer the perspired medicines in full doses they operate too freely or produced purgation. During the second week the patient will exhibit all the ordinary signs of fever, such as a dry condition of the skin some pain in the head, thirst, great general weakness, frequent pulse though generally not amounting to more than 80 and five beats in the minute.
Having much higher, being weak and thirsty, left of affairs extreme precuation though at times perhaps able to sit up or even get up and walk in his room generally his fever is higher in the evening than it is in the morning. His countenance assumes a peculiar expression dull and vacant, he feels not disposed to carry on a conversation even with his best friends. But will simply answer such questions as are put to him. Yet has no time to ask any himself whatsoever. If he be in pain he may express it by the anxious expression of his countenance. He is not apt to make any complaint or at most but little. Perhaps if he be minutely examined he may complain of an unusual soreness of the whole body as if he had been severely beaten or such as might be produced from powerful muscular action. He appears uneasy and restless. The tongue assumes a dry aspect with a brownish tint. The lip and edges often present a very red and angry appearance. The diarrhoea continues the old manner.
distended from an accumulation of air or gas contained in
the intestines. There is frequently some difficulty in deglutition
or, if not when the patient swallows water or any fluid
fluid and may apparently pass at once through the
cardiac orifice. By examining the
surface of the body minimally, there may be found on the
alimentary a number of small red spots similar to those found
record by the bite of a flea, disappearing upon pressure
but returning as soon as the pressure is removed
usually appearing in small quantities forming
extending to the face and extremities. Though it is
not a very common occurrence for them to be found on
the face or extremities. Whilst at the same time a close
inspection may detect above the face and back a number
of small nodules called Induraria, containing a thin transpa-
rent fluid. There is almost invariably some tenderness
in the right iliac region, and this tenderness in some
instances extends over the whole abdomen.
When making efforts over the right line between there may be heard a grumbling sound which is perhaps produced by the escape of the gas contained in the colon. Through the ileum it passes into the small intestines from where it may appear first at night and continue to appear. He has often delirium of hearing noises and seeing things which do not occur, sometimes he has extraordinary agitation. At other times he will talk to himself though he thinly imagines that he is holding a conversation with a friend whom he believes to be present. At other times he may be heard muttering half sentence or evenpeating at his bedclothes or catching at imaginary objects fluttering before his eyes. Whilst at other times and a fit of delirium he arises from his bed, springs forward towards the door of the bedchamber apparently with more thought than his purposes during health and becomes furious with his friends for preventing him leaving the room declaring to them that if he remains
Then he will surely die and indeed so great is the impression that although apparently looking as if he were not able to maintain the erect posture, yet it requires the utmost efforts of two or three stout persons to control his body until the reason again returns. When he finds himself completely exhausted and drinks apparently almost lifeless. The stools present a dark brownish or bloody appearance. The urine is often highly colored and smelly. The eyes are injected. The tongue becomes incrusted with a dark coating. It is fleshy or cracked or peels off looking red and angry representing a glazed appearance. Though when felt with the finger it is found to be very dry and feels rather tough than otherwise. The tongue may be seen to tremble whilst it is long and protruded from the mouth. Dark spots appear upon the lips, gums, and teeth. The surface of the body generally speaking is hot and dry. Though sometimes it is warm in one portion whilst in another it is quite cool. A very unpleasant odor exhales from the body of the patient. It appears and really
is much enfulld. It seems to have a great inclination to
remain upon his book. So at times as if the word falling
through or slipping down in the book. But the most
characteristic signs of the disease are the slow and
incidental modes of appearance. The action on the part of the
patient that he is not amuch sick. The dull, heavy expression
of the countenance together with the drowsy breath of the face
The face color is marked The tendency on the right side
before with the grunting sounds upon pressure. These symp-
toms are pathognomon of serious fever. About the close
of the third week symptoms of amelioration appear, as to the
Contrary. Very seldom and the case generally ends in death
during the fourth week. For this disease may be considered
as almost essentially a fever of their acute duration.
Though sometimes it may continue for a much longer
period than this. Cause Many different opinions
have been expressed by talented individuals relative to the
cause of this disease. But as to the cause this is
a question yet unsettled but in entire free.
perhaps just as in material from a poison outside of the organism is generated and by some means or other the poison being thrown into the system produces its specific effects with as much certainty as medicines of obvious kinds after being taken into the stomach taken up by absorption carried into the blood and distributed to the whole system to produce their specific phenomena. An individual after once suffering from the effects of intense fever is said ever afterwards to be almost if not entirely exempt from it or not liable to be struck down by it a second time. This disease is not generally admitted to be contagious. It is also said that an individual after having this affection is not so liable to be struck down with other diseases. Those between the ages of fifteen and forty are often attacked. Those more advanced in life it is more fatal in the old than the young and in cold places in warm climates.
Prognosis: The Prognosis as well as the diagnosis of
consumption is a complex problem into the solution of
which in each individual case there enters a great
number of phenomena. A noisy breathing and irregular
respiration is a very dangerous indication and when
connected with other grave symptoms such as a very full
pulse with a gaseous smell that may be very easily compressed
or cut off giving way as if at contains nothing but air.
The patient being covered with a clammy and cold sweat
having a peculiar smell. The case presenting such symptoms
should be looked upon as one attended with a great degree
of danger. Delirium especially if it occur at an early
period and is of a wild and violent character, portends
badly to the patient. Menace danger, prolonged and profound
coma are also very unfavorable symptoms. If the delirium
is very urgent and continues for any considerable length of
time the stools being any offensive and bloody it is a
symptom warning of impending danger, and should be
met by prompt and judicious treatment. Retention of
Avid is also an unfavorable symptom. If our patient exhibit
many of the above enumerated symptoms our prognosis
would certainly be unfavorable. But if he be young and
strong, a good constitution at the commencement of the disease
with good nursing and proper treatment we would look
for a favorable termination. If the odor arising from the
body of the patient be musty and cadaverous and he is
greatly emaciated still at the same time if his aspect and
condition that he is perfectly well or of the complaint should
of intense pain in any portion of the abdomen. We may
almost know of a certainty that intestinal perforation has
taken place and therefore we may look upon the case as
being and almost if not entirely beyond the reach of
all these remedies which are within the reach of man.
Consequently almost necessarily fatal. But we should never
give our patients up until we have seen them gasp in
death and when we see and know that they have slowly
sorrowfully and calmly passed from under our hand and
care and are chambered beneath the cold and long
... We are then only consol'd our troubled minds and
shrinking breast, with the bent hope that we have
fulfilled our duty. That we started out well armed
and equipped, with sword in hand, fought a good
fight. But a good few Batt accomplished nothing.

Anatomical Characters. The anatomical lesions in
this disease are almost as numerous and complicated as the
different organs of the body themselves. Indeed I may add,
and perhaps very correctly too, that after this affection has
passed through its different phases and terminated in
death that there is scarcely any one organ among the many
going to make up the whole human system that does
not suffer to an extent more or less. But there are
 Certain anatomical lesions which are especially characteristic
of enteric fever, and which are so seldom wanting. That
they may be considered as being essentially necessary to the
existence of this disease. Such as the affection of the
glands of the liver. The arrangement of these glands is very
peculiar and in Reference to the morbid anatomy of entire
few unnecessarily necessary to be understood. They are not
seen with the SCAMC, are oblong in form and longest and
most numerous. Consequently most weakly set in the lower portion
of the SCAMC, which in some instances is almost entirely
covered by these. Obstructed in other cases their number is limited
to but few. They are found also upon the body of the male
But beyond this in that direction they do not extend
Ascending from the SCAMC towards the gymnema their groups
or elliptical patches become smaller, shorter and circular and
left numerous. They are separated by longer and longer intervals
until they become at last completely invisible. These glands
contain a thick fluid and unlike most other glands they
have no duct or cuticle. The main alterations that take
in the abdomen after death are the changes produced in these
glands by inflammation, ulceration &c. They first become
enlarged and more perceptible than when in a normal
or healthy condition. They are reddened and somewhat
inflamed. Presently they are a gagish and somewhat
translucent, surface dotted over with black points.
As the inflammation advances, these glands burst or ulcerate or slough away, and an impure or bloody ulcer is generally left having ragged edges. The color of the ulcerated surface is various, as well as its form and general appearance. Sometimes it is pale and gray. Sometimes it is red and often yellow as if the suppurated cellular and other tissues were stained by the bowels' fluids which had been oozed from the bowels during life. The solitary glands are also affected in a similar manner. The mesenteric glands are invariably formed. Oozing a very unnatural or unhealthy appearance in proportion to their position and the period at which desolation has been accomplished. During the second and third weeks they are found to be increased in volume but diminished in thickness constantly and present to the eye a gray color as apparent. The glands of the mesocolon are affected in the manner. The colon is often found distended with air to an enormous amount or extent. The small intestines are also sometimes distended with flatus to an extent more or less. The spleen is almost
insanely engorged generally enlarged and softened to the consistence almost of a bloody pulp. The liver is now spongy, soft, and congested. The blood is very much altered from its normal proportions. The fibrin being reduced very low sometimes as low as perhaps lower than one per cent in the thousand. The healthy proportion being about three. The aorta on its internal surface in some cases presents a mortified reddish. The heart is soft and flaccid. Some portions of the lungs are at times found to be somewhat softened and are of a leather consistency. The brain generally suffers but little. Though in some cases a slight effusion takes place beneath the sub-arachnoid membrane. The mucous membrane of the stomach sometimes shows signs of previously existing inflammation.

Treatment of Contagious fever,

As there is often at the commencement of contagious fever a rash, or if not a considerable tendency towards it, it would certainly not be prudent to commence the treatment of this fever.
As is done in most cases with a tractive or powerful cathartic. But the bowels should be gently evacuated by one whose action is mild and according to my judgment Castor Oil combined with a few drops of Strychnia cats in the disease a more salutary effect than any other compound that could possibly be used. If there is pain in the bowels we should at the same time add to this fifteen or twenty drops of the Fluid Opii. The bowels should be moved throughout the disease if necessary with any mild cathartic medicines. Castor Oil having the preference in all cases. In severe cases Mercury should not be used from the fact that it is well known to many and has been clearly demonstrated by scientific men that this article has the power and will in all cases break down or diminish the fibrin of the blood. Consequently if administered would necessarily weaken the system and increase the destruction of the patient. And in this affection the proportion of fibrin from the commencement of
The disease is too small and as the tendency of internal fever is naturally towards that of prostration
mercury also having the power of destroying the nutritive element of the blood—Consequently of
weakening the system. Could certainly by no means have at all beneficial to the patient.
But on the other hand would undoubtedly aid
the disease in accomplishing its work and hastening the
patient on to that distant clime from whence he
traveled ever before. In internal fever unlike in
most others this fever is almost instantly found to
act too freely. Consequently for this reason if some
other we should be distant from the use of mercury
for sure. There is no necessity for stimulating or
trying to arouse an organ into action which is at the
time over acting or acting too freely. We should use
no medicine or medicines that would weaken an organ.
The system (unless to combat local inflammation)
But to the contrary we should treat the case so that
The patient may retain within his system those nutritive elements which are so essentially necessary to the building up of his tissues. Where the pulse is full and strong, the cardiac action proceeds with a considerable amount of pain in the back. This, guided by the hand and the lift of blood, controlled by the mind, is the impression and judicious demonstration might prove advantageous. But it should ever be remembered that the tendency of this disease is naturally that towards prostration and reminiscence. This I would be fearful to blind in almost every case, for we know that bleeding will not arrest or cut short the disease, and if carried to gas-
would undoubtedly have an injurious effect. Therefore we should be exceedingly careful in the use of this most powerful remedy.

Dr. Wood, who is the author of a great work on the practice of medicine, and who is from what little I have been able to learn of his history, a truly
great and scientific man. Thanks that in certain stages of ancient fever, (and he is not alone in this belief, for there are others who advocate the same doctrine) that there is no remedy which produces or brings about a more salutary effect than mercury gives so as to slightly alter its nature. The patient he also after the disease has advanced considerably uses the same. But, we would feel disposed to commence the treatment of the disease at the outset with mercurous (showing mercury aside entirely). Prof. Boulding's plan of treatment is undoubtedly a successful one which consists in part of mercurious from the commencement of the disease to be continued until the death or recovery of the patient. We should administer this article unto the patient in such a manner that he may derive into his system upon an average about one drop of the salt's mercuric every hour.

Prof. Boulding's Recipe is the Take one large gum
arable 3½ oz. Consist Stits Lavander 1/8 lumps of 2 oz.
on thoroughly and administer our Tisane every third hours. We should place our patient in a large quiet and well ventilated apartment very thing should be removed from his room only that which is necessary for his comfort and ease.
If he be sick in the summer he should be washed every day in soap and water either cold or warm owing to the desire of the patient.
If in winter wash the body in warm water every other day, wipe him dry with a coarse towel or something of the kind being careful not to suffer him to become unpleasantly cold. If his skin be dry and hot, sponge his entire person frequently with a solution containing equal portions of vinegar and water. Which in almost all cases will proved to be of great advantage or at least it will preserve much ease and comfort for the patient.
Cleanliness throughout the entire course of the
disease should be strictly adhered to; for upon this much will depend. If the sickness should become annoying or very prolix we should check it by
The use of opiate or astringent medicines
If hemorrhage were to occur employ injections of cold water, cold water, starch and water. Astringent fluids
infused with astringent medicines.
If there be much pain or tenderness in the abdomen apply warm fomentations or poultices over the whole abdominal region. Renew them frequently.
If hemorrhage should occur properly and must not suffer the patient to be prostrated by it but use powerful aperient or astringent medicines that have the power of constraining the mouths of the bleeding vessels from which it spring. Use injections to accomplish the same. If hemorrhage takes place from the nose apply cold to the head and neck, use astringent injections and make injections to
But should these means fail to arrest it use a plug.
Rolled in the form of a cigar. Every thing should be quiet about the patient and the physician. If possible, in cases of extreme coma or delirium, should be present. The hair should be removed from the scalp, and the head then kept cool by applying pounded ice or very cool water a blister on the back of the neck might also prove beneficial. If there be twitching of the muscles of great concern, Belladonna, some benefit may be derived from the administration of camphor combined with an opiate.

Though in this disease we should ever remember that there is danger in administering too much medicine and indulge that we cannot arrest or cut short the disease, but simply aid nature in again restoring health. The patient's strength should be sustained by a nutritious diet. Stimulants are, if necessary, used in some of these would be the remedy which I would use in the treatment of enteric fever.

January 8th 1867

S. W. Johnson

[Signature]