

AN
INAUGURAL DISSERTATION

ON

Enteric Fever

SUBMITTED TO THE

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FOR THE DEGREE OF

DOCTOR OF MEDICINE.

BY

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OF

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To Prof. W. K. Bowling

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

Enteric fever 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 as near infant as it were in pursuit of one of
the most noble honorable and beneficent professions
ever followed by mortal man (as I conceive) shall
not be able to advance one single idea that has not
heretofore been set forth time and again. But notwith-
standing all this I believe long continued custom with
all regular Medical institutions has now made it an
universal 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 their correctness.
Consequently I will now proceed to give a few lines
relative to a disease commonly known by the appellation
of Typhoid fever at the same time feeling my utter

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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 one single new idea that I may at
least be able to enumerate a few simple facts. Enteric fever
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 no man as yet I care 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
true that this disease by many at the present day is but
little understood. It is a fact well known too all scien-
tific Medical writers and speakers of the present age - that
the affection known most commonly by the name of
Typhoid fever is a febrile disease presenting an almost
numberless diversity of symptoms at the same time having
certain symptoms by which the experienced Physician
or well trained Student may be enabled to recognize it.
It is said by some writers to be the ordinary epidemic

fever of Europe and of those Portions of the United-
 States in which the Miasmatic 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 boundaries or lines by which it is geographically
 circumscribed yet it is perhaps as much a fever of the
 north as malarial is of the south. but we often see very
 often more with this disease elsewhere than in Northern lati-
 tudes and it is more than probable that it may be found
 more or less throughout the whole inhabitable globe. For it
 matters not in what direction soever we steer our footsteps
 either North South east or West by diligent search and Patient
 enquiry we may be enabled to find this most horrible affec-
 tion. Intense fever is generally found to prevail most in
 high lands with a gravelly or sandy subsoil.

But there is no swamp so damp - Or Mountain so high
 No Valley so low - Or desert so dry - as entirely to shield
 its inhabitants from the ravages of this terrific affection.
 The denomination of entered fever as yet remains unsettled

It has by different Authors Received a Variety of Names -
 by some it is called Continued or Common Continued
 fever Typhoid fever Nervous fever Entero Mesenteric
 Adthmentaritis enteric fever &c. But as to the name it
 matters but little so we know what organs are deranged and
 the Remedies requisite to the Restoration of the same to a
 normal or healthy condition yet it does seem to me upon
 the whole that from among the many names given to this
 disease the most suitable to select would be that of enteric
 fever - for it is certainly a point entirely beyond success-
 ful Contradiction that the intestinal affection is as much
 characteristic of this disease as the eruption is of Scarlatina
 Small Pox or Measles. Symptoms Course &c. Enteric fever
 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 on more insidiously
 gradually increasing so that it is a matter almost of impos-
 sibility for the Patient or Physician to fix or point
 out definitely the precise period of its commencement

The patient often complains of feeling unwell yet can hardly tell why or how. If we interrogate him closely he will answer perhaps that he feels much fatigued or averted complains of some soreness in his limbs perhaps a dull aching in the back together with some slight uneasiness in the head still he will not admit that this uneasiness amounts to any headache sometimes he complains of a soreness or uneasy sensation in the back portion of the head neck and shoulders he appears stupid and listless pays but little attention to what is going on around him. The patient will often have slight rigors and these rigors 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 fur, 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

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impaired. 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 feel 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 unless from the occurrence of some unlooked
for or accidental inflammation. The bowels during the first
week are most generally in a laxative Condition often amounting
to diarrhea - or if not they are almost invariably much easier
moved by Cathartic Medicines than they are in most other diseases
or if we administer the Purgative Medicines in full doses
they operate too freely or produce Hypercatharsis
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 ninety five beats in the minute though sometimes

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Ranging much higher, being weak and Thready ^{loss of appetite}
extreme Prostration though at times perhaps able to sit
up or even get up and walk over his Room

generally his fever is higher in the Evening than it is in the
~~Evening~~ ^{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
desire to ask any himself whatever. If he be in pain
we may observe 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 interrogated
he may complain of an unaccounted soreness of the
whole body as if he had been severely beaten or such
as might be produced from powerful Muscular
exertion. He appears uneasy and restless. The tongue
assumes a dry aspect with a brownish tint the tip
and edges often present a very red and angry appearance
The diarrhoea continues the abdomen becomes

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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 other fluid we may apparently hear it pass through the Oesophagus with a gurgling sound until it enters the stomach through the Cardiac orifice By examining the surface of the body minutely there may be found on the abdomen a number of small Red spots similar to those produced by the bite of a flea disappearing upon pressure but returning as soon as the pressure is removed usually appearing in small quantities Sometimes 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 upon the face and neck a number of small vessels called Sudamina containing a thin transparent fluid There is almost invariably some tenderness in the Right iliac Region, and this tenderness in some instances extends over the whole abdomen

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Upon making pressure over the Right iliac Region there may
be heard a gurgling sound which is perhaps produced by
the escape of the gas contained in the Colon through
the ilio caecal valve into the small intestines During the
thorax with the patient often evinces signs of delirium
making them appeared first at night and continuing to
deepen. he has often delirium of hearing hears and sees things
which really do not occur, sometimes he has extraordinary
agitation at other times he will talk to himself though
he really imagines that he is holding a conversation with
a friend whom he believes to be present, At other
times he may be heard uttering half delirious sentences
or seen speaking at his bed clothing or catching at imaginary
objects floating before his eyes. Whilst at other times in
a fit of delirium, he arises from his bed springs
forward towards the door of his bedchamber apparently
with more strength than he possessed during health and
becomes furious with his friends for preventing him
leaving the room declaring to them that if he remains

Thus he will surely die and indeed so great is the impres-
 sion that although apparently looking as if he were not able
 to maintain the erect posture yet it requires the united
 efforts of two or three stout persons to contrain him until
 until his Reason again returns when he finds himself completely
 exhausted and sinks apparently almost lifeless. The stools
 present a dark brownish or bloody appearance the urine is
 often highly colored and scanty the eyes are injected
 the tongue becomes incrusted with a dark coating is
 fissured or cracked or pale-off looking red and angry
 presenting 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 being protruded from the mouth
 dark borders collect 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 he appears and feels

is much enfeebled seems to have a great inclination to
Remain upon his back - feels at times as if he were falling
through or slipping down in the bed. But the most
Characteristic signs of this disease are the slow and
insidious modes of its approach, the notion on the part of the
patient that he is not much sick - The dull heavy expression
of the countenance together with the dusky tinge of the face
The Rose colored eruption the tenderness in the right iliac
Region with the gurgling sound upon Pressure - These symp-
toms are pathognomonic of enteric fever, About the close
of the third week symptoms of amendment appear, or to the
contrary they deepen - and the case generally ends in death
during the fourth week, for this disease may be considered
as almost essentially a fever of three weeks 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 enteric fever.

Perhaps just as in Malarial fever, a Poison outside of the
 organism is generated and by some means - or other
 this Poison being thrown into the system produces its
 specific effects with as much certainty as medicines of
 various kinds after being taken into the stomach taken up
 by absorption carried into the blood and distributed
 to the whole system produce their specific phenomena -
 An individual after once suffering from the effects
 of intense fever is said over afterwards to be almost if
 not entirely exempt from it or not liable to be stricken
 down by it a second time This doctrine is not generally
 admitted to be contagious though there are some
 who contend that it is But this is certainly not the
 case. It is not contagious It is also said that an
 individual after having this affection is not so liable
 to be stricken down with other diseases Those between
 the ages of fifteen and forty are oftener attacked than
 those more advanced in life it is more fatal in the
 old than the young and in cold than in warm climates

Prognosis The prognosis as well as the diagnosis of enteric fever is a complex problem into the solution of which in each individual case there enters a great number of phenomena. A noisy hissing and irregular respiration is a very dangerous indication and when connected with other grave symptoms such as a very full pulse with a gaseous-feel that may be very easily compressed or cut off giving way as if it contained 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 to the patient much danger. Prolonged and profound coma are also very unfavorable symptoms. If the diarrhoea is very urgent and continues for any considerable length of time the stools being very copious and bloody it is a symptom warning us of impending danger, and should be met by prompt and judicious treatment. Retention of

mind 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
 possess 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 prostrated still at the same time if he assert and
 contend that he is perfectly well or if he complains suddenly
 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 those 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 silently
 sorrowfully and calmly passed from under our hand and
 care and are chambered beneath the cold and lonely

sed. We can then only console our troubled mind and
 scrabbling breast with the sweet 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 foe. But 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 assert
 and perhaps very correctly too that after this affection has
 passed through its different stages 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 entire fever, and which are so seldom wanting that
 they may be considered as being essentially necessary to the
 existence of this disease. Such is the affection of the
 glands of Peyer. The arrangement of these glands is very
 peculiar and in reference to the morbid anatomy of entire

fever essentially necessary to be understood They are met
 with in the ileum are oblong in form and longest and most
 numerous - consequently most thickly set in the lower portion
 of the ileum which in some instances is almost entirely
 covered by them whilst in other cases their number is limited
 to but few They are found also upon the Ilio-Cecum Valve
 But beyond this in that direction they do not extend
 ascending from the Cecum towards the jejunum these groups
 or elliptical patches become smaller shorter more circular and
 less numerous - they are separated by longer and longer intervals
 until they become at last completely invisible These glands
 contain a thin fluid and unlike most other glands they
 have no duct or outlet The main alterations met with
 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
 softened present to the eye a glossy and somewhat
 transparent surface dotted over with black points

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As the inflammation advances - These glands burst or ulcerate
or slough away - and an irregular or jagged ulcer is generally
left having thickened 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 exposed Cellular and other tissues
were stained by the Colored fluids which had been
spread from the bowels - during life - The Solitary glands
are also affected in a similar manner - The Mesenteric glands
are invariably found present in an unnatural or unhealthy
appearance in proportion to their position and the period at
which dissolution has been accomplished - During the second
and third week they are found to be increased in Volume but
diminished in ~~thickness~~ Consistence and present to the eye
a Pale color or appearance - The glands of the Mesocolon
are affected in the same 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

insurably engorged generally enlarged and softened to the con-
 sistance almost of a bloody pulp. The liver is more or less softened
 and Congested The blood is very much altered from its normal
 proportions The fibrin being reduced very low sometimes as
 low or 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 morbid Redness
 The heart is soft and flaccid Some portions of the
 lungs are at times found to be somewhat hepatized and
 are of a leathery Consistence 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 Intense fever,

As there is often at the Commencement of intense
 fever Diarrhea 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 drastic 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 Spts Turpentine
 exerts in this 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 Tinct Opii

The bowels should be moved throughout the disease if necessary
 with very mild Cathartic Medicines, Castor Oil having
 the preference in all cases In intense fever 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 prostr-
 ation 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 enteric 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 - prove 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 no traveller ever returned. In enteric fever unlike in most others the liver is almost invariably found to act too freely - Consequently for this reason if none other we should be deterred from the use of mercury - for surely - 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 or prostrate the system (Unless to combat local inflammation)

But to the contrary we should treat the case so that

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The patient may retain within his system those nutritious elements which are so essentially necessary to the building up of its tissues

When the pulse is full and strong the Carotid arteries throbbing with a considerable amount of pain in the head flushed face &c. The lancet guided by the hand and the eye of blood controlled by the mind of the experienced and judicious Practitioner might prove advantageous But it should ever be remembered that the tendency of this disease is naturally that towards Prostration and remembering this I would be fearful to bleed in almost every case for we know that bloodletting will not arrest or cut short the disease and if carried to far 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 thinks that in certain stages
of intense 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 benificial effect than Mercury given so
as to slightly Symplice the patient he also after the
disease has advanced considerably uses Turpentine
But we would feel disposed to Commence the
Treatment of this disease at the outset with
Turpentine (Throwing Mercury aside entirely)

Prof Bowdler's plan of Treatment is undoubtedly
a successful one which consists in part of
Turpentine 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 receive
into his system upon an average about one drop
of the Spts Turpentine every hour
Prof Bowdler's Recipe is this Take Mucilage gum

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arabic 3/4 Oz Comp Spts Lavender Spts Turpentine aa 3/4
Ounces Thoroughly and administer and Insistent every
Three hours. We should place our patient in a large
quiet and well ventilated apartment every 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 mixture containing equal portions of Vinegar
and water which in almost all cases will prove to
be of great advantage or at least it will procure
much ease and comfort for the patient

Cleansing throughout the entire course of the

disease should be strictly adhered to for upon this much will depend If the diarrhea should become annoying or very profuse we should check it by the use of opiate or astringent Medicines If hemorrhage could be employ injections of Cold water Good water Starch and water mucilaginous fluids impregnated with astringent Medicines

If there be much pain or tenderness in the abdomen apply warm fomentations or Poultices over the whole abdominal region Renewing them frequently

If hemorrhage should occur profusely we must not suffer the Patient to be prostrated by it but use powerful opiate or astringent Medicines that have the power of constricting the mouths of the bleeding vessels from which it springs. Use injections to accomplish the same If hemorrhage take place from the nose apply Cold to the head and neck use astringent injections Good water injections &c-

But should these means fail to arrest it use a plug

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Rolled in the form of a cigar. Every thing should be
quiet about the patient and sleep procured if possible
In case obstinate 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 or great nervous
restlessness some benefit may be derived from the administra-
tion of Camphor combined with an opiate
Though in this disease we should ever remember that there is
danger in administering too much medicine and
recollect 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 Stimulents are if necessary,

When or some of these would be the formula which
I would use in the treatment of Enteric fever,

January 9th 1857

Seaboard. W. Johnson

S. W. Johnson