University of Maryland Theses

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UNIVERSITY OF MARYLAND

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Moore, James	Scarlet Fever
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UNIVERSITY OF MARYLAND

THESES

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Hunter, T. Conrad ~~J. C.~~	Opium	28p.
Ward, Harrison C.	Typhoid Fever	40p.
White, N. Smith	Typhoid Fever	28p.

AN

Inaugural Dissertation

ON

Croup

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

James S. Townsend

Of

Manchester, Maryland

Session of 1841 12

The disease which I have selected for the subject of the present dissertation has been described under a variety of names; viz Croup. Tracheitis; Leyrian the trachealis; Pseddo-membranus Laryngitis, — The essential pathological character of the disease consists in an inflamation of the lining membrane of the larynx and trachea; attended with swelling and pain in the tissues of the part and by the expudation of an albuminous substance commonly termed false membrane Croup on account of its seriousness and danger to early life has been ably and zealously studied by many of the master minds of the profession, who have endeavored to throw light upon a subject so fraught

with interest and advantage to the medical world. True inflammatory croup is one of the most dangerous and alarming fatal affections to which infants and children are liable; sudden in its attack, threating in its symptoms, and rapid in its results; it sweeps over a family leaving behind its distress and dissolution. A disease which is so dreadful in its ravages, which so quickly depresses the vital powers of the system, has worthily received the attention of medical gentlemen in studying its nature and discovering the most efficient means for its relief and cure. Difficult and tedious as these investigations have been they have nevertheless succeeded, and their attempts have been duly rewarded.

Croup generaly presents itself in three different stages, which have been designated according to the symptoms into those of the precursory stage or stage of invasion; those of the stage of development and those of the collapse or suffocative stage. These divisions are not always clearly defined in common attacks of the disease but their existance is pretty well established in well marked and genuine cases of inflammatory croup. The symptoms of the precussory stage are those generally met with in an ordinary attack of catarrh; the child is cross and feverish, the skin is hot; pulse quick increased thirst; cough and a degree of hoarseness of the voice which is so characteristic of the approach of croup as not easily

overlooked. There is as yet no evidence of serious affection trachea, but a manifestation of uneasiness in the throat, and the cough is short and dry. The breathing is hurried and the stethoscope reveals some slight sibilant râles in the chest. These symptoms or the stage of invasion vary from a few hours to one or two days, after which the more threatening and serious stage of the development sets in with full force. After the symptoms mentioned above have proceeded gradually increasing towards evening, the child is suddenly aroused out of sleep by a sensation of suffocation with a horse ringing cough, hurried and hissing respiration, and a rough voice with great alarm, agitation and distress. The child presents a terrible aspect in this stage panting

convulsively and eagerly after breath, with spasmodic action of the various muscles, flushed face and with the eyes ready to leave their orbits, The paroxysms of coughing become more frequent and spasmodic, the difficulty of respiration increases, and the efforts of the child are augmented; the arms of the little sufferer are violently tossed about and the evidence of great suffering becomes considerably manifest. The dyspnoea, cough and hoarseness increases during the evening and night, while in the morning the fever cough and other symptoms abate and the child appears improved. This intermission however is deceptive, it may continue for some time but only to gain more strength and renews the attack with greater severity.

The respiration becomes stridulous and the peculiar rough, barking cough, followed by breathing more or less hissing increases; great restlessness and sighs of uneasiness in the trachea are experienced, the pulse is quick, hard and small; the skin hot and dry, and the face and head covered with profuse perspiration during the fits of coughing. The respiration increases in difficulty, and the voice in hoarseness; the cough more harassing and convulsive; impending suffocation is threatened. The remissions become less perceptible; the cough more difficult which is followed by vomiting and the expulsion of a glairy mucus mixed with membranous shreads which affords considerable relief to the patients. This relief unfortunately is only temporary; since the

croupal respiration becomes permanent — and increases; the voice of the child becomes broken whispering and sometimes wholly suppressed from the pain excited by the severe paroxysms of coughing.

During this stage of development those changes which are so peculiar and significant of the disease become developed; these alterations which give rise to the pathological peculiarity of the secretion of the false membrane are well marked and manifest. After the child has passed these stages which are terrible enough in themselves and frequently overwhelming, there is yet another and more distressing period of suffering on the approach, ready to manifest its terror.

The stage of collapse is characterized by the absence of any remission, the aggravation of all the preceding symptoms, great accelleration and diminished power of the pulse and respiration. The pulse is not only quick and feeble, but often and sometimes generally becomes irregular and intermitting; the cough becomes less frequent, less sonorous and suffocative; the voice low and whispering is sometimes entirely abolished; and all symptoms of threatened suffocation are established. The surface of the child is exceedingly pallid with a dull and livid complexion, the muscles concurred in inspiration are called into powerful action and the motion of the larynx extensively, and incessantly augmented. From this collapsed

and dangerous stage the child very seldom rallies, but is generally carried off by convulsions subinduced by the imperfect supply of aerated blood to the brain Death ends the scene which has been so terrible in true reality and whose description has by no means been exagerated.

Thus ends a disease which fixes its power upon the weake and unsteady frame work of childhood and hurls many a darling child to an untimely grave.

The assiduity and labor of those indefatigable observers who strew blessings as they pass have done much, have toiled to great advantage in discovering the true nature of this affection which so frequently baffles medical art, and established useful precepts respecting

its rational treatment. The catarrhal variety of croup is exceedingly frequent and common; being the forme which seldom proves fatal as is more amenable to proper treatment than the true inflammatory affection. There are still another variety which occurs in children of an irritable nervous temperament and termed spasmodic form of croup, in which the disposition to nervous disorder is more prominent and causing a spasmodic constriction of the trachea. This form is fortunately more manageable and if taken in time, the spasmodic irritation may be relieved before there has been time for the formation of the false membrane; these conditions being relieved the inflammation may either disappear or be modified in its course.

In children who have died in consequence of an attack of croup various alterations and modifications have been found in the trachea and other tissues to which the inflammatory action has spread. The first evidence of pathological changes produced by the disease is found on inspecting the trachea of one who has fallen a victim to its fearful ravages, to consist in the peculiar character exhibited by the lining membrane; which is of a bright red color, occurring either in patches or in a continuous line often covered with mucus tinged with blood. The characteristic morbid appearance is the false membrane which lines the air passages and placed upon the mucous membrane. This membrane consists

of a layer of lymph, of considerable consistence, of varying thickness and of a yellowish color, lining the larynx and the trachea, extending occasionally into the bronchi, and thus giving evidence of the cause of the extreme suffering and the convulsive grasping after air as manifested by the little patient.

In some cases the expectoration instead of being as above described presents the appearance of a semi liquid substance mixed with pus. Whenever this appears and is expectorated, it is always considered of unfavorable augury in the progress of the disease. Thus far has been but imperfectly shown that all the symptoms which appear in the progress of the disease are fully accounted

for by the pathological lesions found in those who have been carried off by this dreadful malady. The pathological history of croup is quite intelligible, the inflammation may commence at first in the submucous tissue, or it may have been primarily catarrhal, in which case catarrhal symptoms precede those of croup. The inflammation causes an increased sensibility of the contractile fibres and effusion in the lining membrane of the trachea, which results in the constriction of the air tubes and produces the croupy inspiration, cough and attending hoarseness. Lymph is subsequently poured out from the tissues at first fluid and becoming concrete acts by diminishing the calibre of the trachea excites spasmodic contraction,

This false membrane extending into the
larynx which being extremely susceptible
to the impression produced by any foreign
substance is excited and evidences it by the
paroxysms of dyspnoea and hoarseness which
become extremely imminent and suffocative
These changes have others in their train
which by preventing the complete entrance
into the lungs give rise to those dangerous
symptoms of malaceration and extreme peril
& collapse which usually takes place in
cases of fatal attacks of croup, is evidently
dependent upon the improper performance
of the function of respiration by which the
blood is deprived of its true pabulum and
circulates in its impure condition through
the brain producing its ill effects upon

the vital powers, which is shown by the lividity of the countenance, coldness of the extremities and surface and, general convulsions.

The principal causes of croup appear to be constitutional susceptibility, exposure to a cold, damp, & changeable atmosphere, insufficient clothing and finally epidemic miasma. It is more common in winter than in summer which is in a great measure owing to the frequent vicissitudes of the weather and the combined influence cold and moisture upon the delicate membranes of the child. The sudden suppression of cutaneous eruptions, the breathing of noxious and poisonous exhalation may occasionally give origin to the disease. It may likewise be caused by or supervein

as a sequel of other diseases as measles, scarlatina and other eruptive diseases; it arises from the early exposure to cold during convalescence from febrile complaints,

The diagnosis of the disease is by no means very difficult, The peculiar kind of breathing and the loud barking cough in combination with the existance of inflamatory fever lead to a correct judgment of the nature of the disease,

The cough is almost if not entirely peculiar to croup, although the croup attending the catarrhal stage of the exanthemata may be confounded with it; but this will be decided by the presence or absence of other symptoms which belong to the disease, In the more advanced stages

affections when the peculiar ringing cough has become somewhat modified and the breathing lost much of its peculiar character, the ready diagnosis becomes more difficult. Other signs failing recourse may be had to auscultation which affords a pretty positive evidence of existence of the disease. Croup may be distinguished from other affections simulating it, as spasm of the glottis or purely spasmodic croup by the presence of febrile symptoms and the less suddenness and more pertinence of the attack. Croup from the violence of the attack is a most serious disease, and if not arrested in the commencement by active and energetic treatment will lead to a fatal result and sometimes when

thus met by the most efficient means of tenbafles the most natural treatment, When there is reason to suspect the existence of croup and the disease has manifested itself by the croupy inspiration and oppressed breathing there is great danger, and this continues so long as these symptoms exist, The convulsive paroxysms of cough supervening upon a recent attack brings great danger upon the little patient, either from the sudden suffocation or the invention of a speedy and fatal collapse, On the other hand, when the symptoms diminish in severity, as is shown by the less frequent cough and the amelioration in the state of respiration; by the free expulsion of the false membrane either entire or in patches,

with diminished frequency of the pulse and the universal and healthy diffusion of warmth and color to the surface, the changes for the childs safety are materially enhanced.

Recovery sometimes takes place when all hope of restoration seems to have fled, when the vital powers have been so depressed that the vital spark has fairly left its abode; the system may in good constitutions rally and turn the pending scale in favor of much desired life.

In order that treatment may be successful it should prompt properly directed; since success depends in a majority of instances on the proper and beneficial choice of appropriate remedies, which by counteracting the inflamatory action may bring about

the desired result. The indications which present themselves in the treatment of the malady are to arrest or subdue inflammatory action and to prevent the formation of false membrane and its accumulation of the same in the air passages. When the period for the accomplishment of the first indication has elapsed and when it is impossible to subdue the inflammatory action, the object to be aimed at is, to procure the discharge of these matters, and to mitigate the spasmodic symptoms which are exceedingly troublesome and dangerous. Thirdly: to support the powers of life, so as to enable the system to expel the matter exuded into the trachea.

These indications are to be fulfilled and the measures most strenuously applied in order

that the disease may be successfully subdued and the patient be benefited by such treatment as medical art is capable of rendering.

When the child is seen early or at the commencement of the attack, venesection may and often does accomplish the indication, viz; to subdue the inflammatory action and thus place the patient in the most favorable position for recovery. This remedy may be either preceded by emetics, which act by clearing the air passages of the mucus which has their been situated and as a direct revulsive to the inflammatory action, Tartar emetic or Ipecacuanha may be employed in sufficiently large doses to insure the effect and followed by diluent solutions so as to keep up considerable nausea, vomiting and thereby the expulsion of whatever

may have accumulated in the trachea should by all means be freely induced, since the detension of these substances greatly add to the difficulty of breathing which is one of the most distressing symptoms. For this purpose a solution of Potass Bicorbonas with Tartar emetic in water may be effectually tried, or a combination of the following consisting of Alum, Syrup of Ginger, Syrup and water has been highly recommended to insure copious emesis. The latter remedies may be employed when from debility of the constitution or from any other compatability Tartarized antimony is contraindicated. This medication will frequently have the effect of arresting or subduing the incipient inflammation and turn the chance in favor of the child. The warm bath is likewise

of great service when the disease is taken early, by
diminating to the surface and thereby prevent a
lepse the afflux of blood to the irritable tissues
In order that this remedy shall be of avail
it must be employed early and before the
disease has gained the advantage.
These remedies are particularly applicable and
advantageous in the first stage of the disease,
the second stage on that of promoting the
discharge of matter formed in the windpipe
requires in great measure the same treatment
with some modifications. Calomel combined
with Ipecacuanha so as to insure the relax
ing effects of the remedy are of great service
in this stage The mercurial may be em-
ployed in a considerably large dose at first
in order to procure a free evacuation of the

bowels is exceedingly beneficial. It may afterwards be employed in smaller doses in order to prevent its antiphlogistic effects and thus render the system capable of relieving itself of the foreign substances, mercurials promptly and decidedly advantageous in the treatment of croup upon the same principles as in other acute inflammatory affections; by resolving the inflammatory action and promoting normal and healthy secretion. Calomel must not necessarily be extended to ptyalism but only so far that the action upon the gums becomes manifest.

This action will accomplish all good which can under the circumstances of the case be expected, and this being accomplished the result becomes in all probability more favorable.

after the foregoing action has become established
then remedies are of great advantage which act
upon the pores of the system to favor the remedy
resolution of existing symptoms.
One of the most efficient remedies is the
combination of small doses of Hydrarg. chlor.
mitis and Tartar emetic to which Ipecac-
uanha may advantageously added. These
remedies on the combination of the above
named medicines will when employed
in time exert a happy influence upon the
disease and aid in relieving the imminent
danger which are consequent upon a suffo-
cative paroxysm. In order that these rem-
edies may be of avail and benefit, they must
be administered frequently and with undevi-
ating strictness. Subsequent to the use of-

these remedies and of these diseases has not been supplanted or properly relieved. The application of vesicants is of great utility, vesicants however must be cautiously employed as they frequently cause scarring of the parts to which they are applied. The most efficient and reliable manner of their employment is to allow the cantharidis plaster to remain sufficiently long in contact with the cuticle until it is reddened and then the application of a warm poultice, which will speedily produce the desired vesicle. Other means of counterirritants may beneficially be used as the Linimentum ammonia and cloths wrung out in Spirits of Turpentine. These may be applied to the throat and upper portion of the chest

and will act as most excellent remedial agents in this stage.

This, if under this treatment, the disease give way, and the cough become softer, the breathing easier, and the fever less; the employment of expectorant medicines may be successfully employed as the Decoction of Senega, squills and ammonia, with an occasional warm bath. If the coughing be severe an occasional Emetic may be employed or the inhalation of the vapor of warm either as such or rendered more stimulating by the addition of small quantities of champhor so as to enable the expectoration of the exudation to take place the more readily. After all these remedies have been tried and the disease moves on to the last

stage without relief there is great danger if the system be unable to counteract it. In this the last stage, when the inflammatory symptoms have given place to those of prostration and collapse, the only resource is in stimulants & excitants, by which the powers of life may possibly be excited until the adversity of the case may be overcome, Camphor, musk and assafoetida are applicable in this form by exciting the expulsion of matter, when duly combined with expectorants. When the patient has thus been benefited by the treatment and all things are proceeding favorably, and will, the employment of tonics and those means calculated to give tone and energy to the system may be gradually administered, & these will

expert, if timely and judiciously applied, a beneficial influence on the condition of the patient. During the attack of croup, the diet should be strictly antiphlogistic, but when the child in consequence of exhaustion, becomes enfeebled light nourishing food of an assimilating character may be safely administered. The child should be confined, when convalescence takes place to an agreeably warm and well ventilated apartment so as to be secure from the influence of cold. These precautions being observed, everything will go on well and the child find a remove of the most terrible and dreadful maladies to which the human family has ever been subjected.

An

Inaugural Dissertation

On

Leucohaemia

Submitted to the Examination

Of the

Provost, Regents and Faculty

[illegible]

University of [illegible]

[illegible]

[illegible]

William [illegible]

[illegible]

Session ending March 1867

of Man's wonderful character,
and his bodies in the various
& beautiful attitudes which
afford him subject for most welcome
thought. As he studies all these
processes of life, and becomes acquainted
with the workings of the different
[illegible]
[illegible]
disease. It is in these cases that he will
[illegible]
Man."

"It is the one, the only [illegible]
he
was which, he does not attempt, or is

higher - healthy urine
1030. This increase
the gravity is due to the presence
sugar which exists in solution
more or less degree, according to the
severity or activity of the malady.

urine, and the danger

[illegible] continue for years [illegible]

[illegible]

[illegible] the patient [illegible]

[illegible] brief period; then again there

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] belonging to the [illegible]

[illegible] condition of the [illegible] of [illegible]

[illegible]. This is still another [illegible]

case, which I would call attention to

[illegible]

[illegible]

[illegible]

great extent, except with a little

ses of organs in the human economy whose function is completely involved in doubt. And numerous diseases whose nature is enveloped in a cloud of obscurity.

If we [illegible] into a consideration, together, the whole [illegible] of the disease, with the [illegible] and [illegible] in the [illegible] and give rise to the disease under consideration.

[illegible] the great [illegible] that [illegible]
[illegible] is impossible
[illegible] It seems to me, it would
[illegible] the winter
[illegible] he will die of inanition.

In regard to the other theory - that
[illegible] by the tissues - I will
briefly notice and then pass on
[illegible] new ideas, as to the nature of the dis-
ease in question -

It is a law in physiology that the tis-
sues [illegible]
[illegible]

[illegible] and functional alterations. If this be the case, is it not highly necessary that the [illegible] shall be so arranged, that it may [illegible]

Dr. Burt, (Dallas) inquires why, that [illegible] is more true of it when it occurs [illegible] left side of the heart than when [illegible] system, consequently organs in abnormal [illegible] and [illegible] unassimilable. The accumulation

against the tissues in general must be
made to see by what law. They are requ
to assimilate a substance which
introduced itself into arterial blood
[illegible]
him. But can not this matter be broken
[illegible]
converted into the proper elements
for absorption by the tissues? I think not.
[illegible]
in the assimilation by the system,
morbid elements in the blood. When
is no sugar in urine, and blood cann
[illegible]
no act of transformation by the Sys
tonic Co-brilliants is required, therefore
they are not expected to take on this

the [illegible] little [illegible] [illegible] of the blood [illegible] duct. 2nd. that artificial diabetes may be produced by irritating the floor of the fourth ventricle at the origin of the 11 [illegible] that [illegible], [illegible] will also give rise to the same effect; [illegible] that a [illegible] [illegible] nervous stimulant, directing its influence to the spinal cord.

In regard to the first point, it is unnecessary to go into any argument. It [illegible] that the [illegible] the [illegible]

In regard to the Ord. Work, it would
be impossible with the time I
a detailed account of the numberless
Documents that have been reported to
me, but I will endeavor
to give a brief account of the
principal transactions
since the last Report.

[illegible] from the influence of [illegible]
the nervous system, is followed by glycos-
uria: Continued mental excitement
[illegible] again, autopsies, of those who have died
[illegible] by the same [illegible]
[illegible] causes pressing on the right pari-
[illegible]. The result of these experiments and observations
naturally leads me to suspect a derange-
ment in the function of this nerve and
the former cause of diabetes mellitus and
to [illegible] that irritation of this nerve will
exhibit sugar in the urine, I cannot

[illegible] the [illegible] of the transmitting function of the human — agreeable that the effects of this irritation is directed to the liver, causing it to secrete an excessive amount of glucose. If irritation of the glycogenic function [illegible] the saccharine matter, ought not [illegible] the amount of the secretion, [illegible] for diminution of [illegible] whatever that it receives more from that one, of the left side.

[illegible] probable that the [illegible] value is a small degree, on the first application of the stimulus; but is not this [illegible] or a following [illegible]

respecting [illegible]

[illegible]

What evidence have we then that the sugar makes its appearance in the blood during the excitement; none at all that can be! On the other hand, the phenomena attending the [illegible] is [illegible] is due to the [illegible]. In section of the [illegible] the blood on the left heart is [illegible] impregnated with sugar, but the nerves of the [illegible] of the muscles [illegible] is completely cut off from the parts to which the nerves are distributed. The fact that the presence of sugar in the blood does not [illegible] the excitation of the nerves [illegible]

[illegible] influence, the continued
[illegible]
[illegible]
[illegible] consequently, their
[illegible]
[illegible] reported by Dr. Hy.
[illegible]
filaments of the right leg was in contact
with, and the sugar [illegible]
[illegible] became the agent
necessary to excite its effect. The
[illegible]
[illegible]
There can be no doubt but what this agent
[illegible]
[illegible]
is a transferary molecular death of the
vesicular nerve matter; it neither receives

influences, upon the system which
would be a certain degree
in the same manner, the moral
moral influences should, such as financial
trouble, grief, loss &c. affect upon
the nervous System.
Debility can be occasioned by
from the excessive use of alcoholic liquors
&c; this is apparently a paradox
but it is well known, that a depression in
energy & nervous strength, may follow the
stimulation and excitement of the
liquor. In the Middle Ages Medical
Practice used to prescribe the use
of spirits than Physicians at the present
Advent Spirits, the
drinkers are not attacked with the disease

[illegible] easy to account for; unless it is [illegible]
owing to the continual action of the respira-
tory centre by which oxygen will be [illegible]
& oxygenate with the [illegible]
the lungs through [illegible]
Division, —

Does the action of the oxygen which the
lungs receive in the lungs [illegible]
which will have to be [illegible]
vessels [illegible] by [illegible] the circulation
[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]
nervous centre; the atmosphere acting
probably as a catalytic agent —

The circulation in this disease is very
[illegible] of the [illegible]
[illegible] [illegible]

exercises. In regard to the digestive organs: I see no reason why the diet should be modified or any therapeutical agents administered that would influence directly or these organs; as a general thing the functions is good and can be maintained, in which case appetite exercise may be given. Exercise than this, the stomach and bowels seldom presents any abnormality of function. The gastric and intestinal juices the biliary and pancreatic secretions are normal. So far as I am able to learn, which is a little remarkable, when we consider the de-

disturbance of the digestive organs,
and no doubt [illegible] in many chronic
[illegible] is in
general condition of the [illegible] the bowels
[illegible]
[illegible] no will no, the organs of [illegible]
[illegible] but a few days [illegible]
is not due to any derangement of these
[illegible]
[illegible]
In reference to the diet a few remarks
will be advisable. There are two diets
in [illegible] [illegible] [illegible]
[illegible] [illegible]
treatment of Glycosuria; some urging

[illegible] to the north-bold house etc.
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
we found the elements for the generation of Ceres, which will
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
the condition of the system, the very
state nearly that we find the planet
labouring under at the time the orbit
is quitted.

On the other hand, the Board, to
whom I always strongly recommend the
use of sugar in excessive quantities, no
[illegible] [illegible] for excellence: pure

8 or 10 a. daily, stating that
the 8h or 10th was passed. The amount of
sugar & urine both diminished in a w-
ek and that the patients felt the
disease going better than when they
were in. I am unable to see any rea-
son for this mode of treatment
from the system, of which the first
is already [illegible]
[illegible]
a healthy individual this amount
[illegible]
have all the elements necessary for
the blood making process. It is but

An

Inaugural Dissertation

On

The Sensory Motor Ganglia.

submitted

to the Examination of the

Provost, Regents & Faculty

of

PHYSIC

OF

University Hall.

FOR THE DEGREE OF

Doctor of Medicine

By

John Bagby.

King and Queen Co. Va.

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Sensory Motor Ganglia;

In selecting this subject on a Thesis I am aware of the difficulties and obscurities which veil it. And I would not be vain enough to hope that I could elucidate it by anything I may write concerning it, but would allow the difficulties it presents to intimidate me from the attempt to unravel it all that is possible. Its obscurities do not detract from its interest to minds researches knowledge, and he who undertakes to make himself acquainted with

The modest & the diligent workman
fashioned after the image of his
Maker will stop short of the ac-
-complishment of his task; in
case in this one of the most exalted
of his organs in account of its
complexity. And the scientific man
may find food for Thought & for
matter for experiment to employ
a life time; and when he has ac-
-complished this end, his sensory
ganglia shall cease to guide him
in his researches, & naught to follow
will still find an unexplored
labyrinth of mysteries.
It is useless for me to enumerate
the many deficiencies which surround

this subject, suffice it to say, that we have no difficulty in our way here in the circumstance that physiologists have not yet succeeded in determining with any degree of certainty what is the real truth of the Cerebro-spinal mass is in regulating, respectively, the functions which all acknowledge to belong to the nervous system in the aggregate. Yet we will be enabled to succeed in establishing the point at which we aim, viz:. No matter what stimuli be the remote cause of the motion, it is always the sensory ganglia which is the immediate cause of the motor impulse sent to the muscle,

"Inner ganglia are found at the
base of the brain, and are five in
number, viz: 1st The Gustatory are
lodged in the interior of the substance
of the small tract of the Medulla
Oblongata; and are the centres of the
special sense of taste,
2nd The Auditory lie in the floor of the
fourth ventricle, or the posterior surface
of the Medulla Oblongata; and are the
centres of the special sense of hearing,
3d The Corpora Quadrigemina are found
in the upper part of the olivary, ducts, and lie
posteriorly to the third ventricle,
This pair is the centre of the special sense
of vision,
4th The Thalami Optici lying in advance

of the Tubercula quadrigemina in the
two pyramidal tracts, assuming
the lateral boundary of the third
ventricle, these represent the special
centres of touch.
5th The Olfactory ganglia are situated
at the base of the cerebrum on each
side of the longitudinal fissure, in
the situation called the Tuberculum
Olfactorium, they are the centres of the special senses
of smell.
That these are the only centres of the special
senses, is proved by removing cerebral
hemispheres and allowing these ganglia
to remain, & it is seen that the senses
are all present, but if these ganglia
be removed, all sensation, the senses to which

such compounds will be destroyed.

This is further proven by having the nerves of special sense to these ganglia injected by. Then if we take the first pair of nerves which are distributed to the mucous membrane lining the nares, and we find them are completely destroyed in sensation, viz: that of the inhalation of different substances, if they are inhaled there is no sensation experienced for there is no manifestation of pain, and since they are distributed alone to the schneiderian membrane it does not carry motor impulses to any muscle however, Cabinological evidence goes to prove that the loss of the sense of smell is caused by a morbid condition

of either the Olfactory ganglia, or nerves.

In like manner may the functions of the Tuberacula Quadrigemina be known. For the second pair of nerves, viz. optic, traced from their distribution in the retina; and if either the nerves or the ganglia be destroyed it must, in the loss of vision, while the common sensibility of the eye will remain. But, unlike the former, it seems to be endowed with the power of exciting reflex action of the muscles of the iris, peculiarly so called; and consists in the total closure of the fibres of the nerves in the pelvic viscera in those animals in which the genital

division of the two eyes are totally dissimilar while in man and in some of the higher animals the decussation is only partial in man this decussation is very singular, for whilst in the central portion where the optic nerves unite the decussation is complete the fibres arising from the outer portion of each optic nerve do not decussate, but pass directly backwards to the corpora quadrigemina of both sides of the brain and to the left side.

That these ganglia are centres of sensorial consciousness, independently of the mind, has been proved by experiments performed on

a pupil ; in which the whole movement was removed, the lid furnished many illustrations of consciousness in such a marked degree that its existence could not be doubted. It could stand such. Thus an indication of consciousness is met by the fact that it "will contract and lids close" when a light would impinge suddenly upon it, as stand in a partially illuminated room it would seek the points of entrance of light and even avoid objects stand in its way, however when a lighted candle was placed in a circle upon it the animal excited a corresponding movement with its head, although the lids were made in a comatose state it could be moved.

is a proof, that it would run clear into the Sabbath, and therefore there is a loss of memory. The 1st sum would be added upon in the same manner, by making an impression in the medium of each organ of sense, from that sensational succession existed with sincerity of the Author.

They are certain if impressions of our mental state, as infused from above, as the impressions made upon the retina are conveyed to the Sechuenda Quadrigemina by some medium of those impressions, We infer that the impressions made by the mind in the cerebral hemispheres as they have been formed will be the

centre of consciousness must be conveyed to some centre, and as there are centres of consciousness of our external senses, it is reasonable to term the same office for the "internal senses".

This would be inferred from the former - as a grounded in mechanical mental activity, in the "unconscious cerebration" of Dr Carpenter, by which we often find after pursuing a train of thought for an indefinite time without being able to arrive at a conclusion - The Conscious mind would be much exalted by him who thinks - When we have ceased to think of it - so far as we are conscious we are surprised, by the sudden recalling of the conclusions, to know that the most

vized of all our faculties, has not been
idle enough or has seemed to lack,
Rev. Sir William Hamilton; and
that the mind has been acting at
times which have not been sufficient
force to arouse the sensory Ganglia.
our sense or has not become conscious
of its action. Thus we see, that though
the cerebral hemispheres may act,
yet we are not conscious of their action
until these impressions are conveyed to
some other organs and through their
aid we are made conscious of the con
ditions of the mind.
"In every act of consciousness the recognition
of the identity of bodily and mental
self are inseparable". Hence as it

have seen that the recognition of
bodily self depends upon sensati-
-al consciousness, or that the impressions
made on the external organs of sense
must be conveyed to the Sensory Ganglia
before we can become conscious of these
impressions. It follows further that
there must be centres of mental
consciousness.
They are centres of reflex action, produced
by the transference of any of the
peculiar impressions (which are
necessary for the production of the
peculiar sense) to the different ganglia.
In those animals where the Sensory
Ganglia are the highest nerve centres
the impressions which are carried

by the afferent nerves to the Sympathetic Ganglia, & which then produce the sensation, next immediately upon the motor nerves & thus an the reflex action generated. But in man this sensation being made in the Sensorium an thence reflected to the cerebral hemispheres, and then the mind is brought into exercise, and ideas generated which operate by means of the will or emotion through the Sympathetic Ganglia on the appendages of motion. Thus reflex acts an eye in man when too intense a light falls on the retina; it causing the immediate contraction of the

iris. or closure of the lids and thus protection is afforded the sensitive membrane. That this is a reflex action, in which the impression of the intense light is the originating cause, is manifest from the fact that this contraction of the iris will not take place if the optic nerve which conveys the impression from the retina, or the Tubercular Quadrigemina which receive this impression be removed. Nor if the motor nerve of the iris (third pair) be destroyed.

They are also seen in the pedestrian as he winds his way along the crowded street absorbed in thought

in some interesting topic, or perhaps
he thinks of his business and in
the rewrie of the moment he
forgets himself, still he avoids the
passers by and will not precipitate
himself against the lamp, post
or stumble into the sewer because
the sense of vision is on the alert
and warns the sensory Ganglia of
danger and immediately a carrier
is dispatched through the motor
nerves with power to guide the muscles
in those movements which are
necessary for the safety of the man.
It may seem that these movements
are excito-motor. But as Dr C. says,
"The guidance of these movements by

the visual and invokes the participation of the American in this remarkable performance."

They are centres for generating motorial impulses in response to impressions received from the periphery of the cerebral hemisphere, the will being the stimulating agent, and the periphery of the cerebrum being the part analogous to the retina in creation of vision. The only difference in the two kinds of acts being that in the sensory reflex acts the external world is the stimulating agent, and in the voluntary or psychico reflex acts the will is the stimulating agent which makes an impression on the

periphery of the cerebral hemispheres
and this impression is conveyed to
the sensory ganglion, by sensation fibres
proceeding thereto, and they cause
them to be reflected through the motor
channels to the parts desired to be
moved. That the power of the will
is not effective without the guidance
or aid of the sensory ganglion, is proven
by the fact that we cannot perform
any movement we wish without
the aid of one or more of the senses.
For example; if sensation be lost
in the hand and arm, though
the power of motion remains and by
willing we can move the limb,
yet we cannot hold any object

or execute any definite movement while the eyes are averted, but with the aid of the sense of vision the movements can be executed as we will. Many examples may be cited to prove the dependence of the will on the Sensory Ganglia for the complete accomplishment of its ends.

Besides the voluntary movements which are psychico reflex; i.e. originate in a psychical impression which is conducted from the terminations to the Sensory Ganglia and thence reflected to the motor nerves, there are two other classes of psychico reflex actions, viz:. the motions which

expresses our emotions, and those which express our ideas or thoughts, then as in the case of a volitional determination there is a psychical impression in the sensorium, a conduction to the sensorium; and then in addition to the act of consciousness there is a transfer to the motor nerves,

Very respectfully,
Wm Bagley.

Feby 11th 1867.

AN

Inaugural Dissertation

ON

Scarlet Fever

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

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OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

James M. Moore

Of

Maryland

Session of 1866-7.

Scarlet Fever.

How many young innocents of the human family have fallen victims to this terrible malady. The parent sits down in the evening surrounded by a group of little ones, the objects of affection: he looks around — he casts his eyes upon those smiling little faces, their merry voices ringing in his ear, making glad his heart and filling his soul with delightful anticipations: and ere another week has rolled round most of them

are wrapped in the cold embrace of death. The mother goes to the couch where lies her loved idol, to which her cares and anxieties are hourly being given, and leaves it peacefully resting in sweet and innocent slumber, no harbinger giving token of the sorrow that is approaching to blast her fondest hopes; and ere the morn has dawned upon her and the stars have faded from the sky, it lies prostrate by disease, the powers of life fast ebbing away, and at the close of the Eve sleeps in death.

It is not because of the rapidity only with which the disease

runs its course, that we look upon Scarlet Fever with so much fear and dread. There is not a single disease to which the human system is liable that is more treacherous. Cases apparently of the mildest form frequently develop symptoms that are truly formidable in their nature, during the progress of the disease, and terminate fatally, despite the best directed efforts of the skilful Practitioner to pervert their mortal tendency: others are followed by the most fearful and painful Sequelae, which eventually prostrate the vital powers and

establish morbid conditions which last for years, or even for life.

Such is the disease, the character causes and treatment of which I shall now endeavor to investigate.

The term, Scarlet Fever, is derived from the circumstance that it is generally accompanied by a florid rash, which makes its appearance on the surface of the body. According to some of the best Authors there are three distinct varieties of this disease, which are regarded as the same disease presented under different aspects: there may

be further subdivisions made, but the most important are: The Scarletina Simplex, the Scarletina Anginosa and the Scarletina Maligna. The Scarletina simplex is that form of the disease in which there is a rash appearing on the surface, with little or no sore throat; the Scarletina Anginosa is that in which there are well marked symptoms that the disease is committing its violence through the affection both of the skin and the throat; and in Scarletina Maligna there is frequently very slight eruption on the skin, the disease giving vent to itself

more particularly the throat.

Now as the first of these three varieties is the primary condition of the disease it shall be the first to demand attention.

This disease, in the majority of cases, makes its first appearance very unexpectedly indeed. It generally comes on in the night. During the day the child is busy at his usual play, as one in a perfect state of health eats heartily during the day, and when night comes, retires to bed perfectly well and hearty — Sleeps sound during the earlier part of the night, then wakes up with

a sick stomach and a violently heated skin and becomes feverish and fretful; and in the morning on examination the face, neck and breast are found covered with a rash, consisting of multitudes of little red points, which under pressure will disappear, and return again when the pressure is removed. The pulse beats with great rapidity, thus indicating the violent action of the heart, which alone may be regarded as one of the diagnostic signs of Scarlet Fever. The tongue is coated with a white fur, through which red points project; upon further investigation

The mucous membrane of the mouth and fauces is seen to be inflamed, with numerous red spots presenting themselves on the surface. These are the ordinary symptoms of a case of simple Scarlet Fever. The disease having been thus ushered in, makes rapid progress, the rash extending over the whole surface of the body, and then to the extremities: And at the end of about the third day from the first invasion, that which first made its appearance, begins gradually to disappear, the ordinary termination of the disease, in its primary stages being

in five days, sometimes, but rarely exceeding seven days. The fever does not abate or subside in this disease after the appearance of the eruption, but continues through its course: the pulse, which is seldom less than 120 per minute, remains about the same, there being no diminution in the temperature of the skin, which sometimes rises to 110° Farenheit. In some cases of Scarlet Fever, parts of the red surface are found to be studded with numerous little vesicles, which contain a colorless liquid, and which are sometimes called Su-

damina. According to Dr. Watson these little vesicles abound mostly on the thorax and front and sides of the neck. The liquid in these vesicles is reabsorbed and the cuticle forming them shrivels up turns white and falls off in the shape of a white scurf, giving to the parts a powdered appearance. In the mild form the functions of the skin are impaired: the tongue, which in the begining was coated with a thick white fur, begins to throw it off about the second or third day, commencing at the apex and sides; sometimes when denuded

entirely it is but slightly reddened and some times it becomes very much reddened and raw, and is called the Strawberry tongue. Frequently the symptoms are so mild in Simple Scarlet Fever, and so little functional disturbance of the nervous system that the patient may pass through all the stages of the disease, and nothing be required but the observance of simple hygienic measures: But it is not so in all cases of the mild form: the nausea and vomiting, which I have already mentioned as one of the premonitory signs, are not unfre-

quently accompanied or followed by convulsions of a very serious character, and difficult to control. Sometimes there is coma and Delirium, which are characterized by the patient's crying aloud, and suddenly rousing from sleep.

As the rash fades and disappears it leaves the parts covered with a dry harsh cuticle, which peals off in scales. The desquamation which thus goes on is said to be peculiar to the disease, since it has been known to occur even in cases in which there was no eruption or heated surface. The cause of this invariable desquam-

ation of the cuticle, is attributed to that specific influence which the miasmatic poison has over the dermis, and not to the swelling and inflammation of the dermis.

In the Anginose form of Scarlet Fever, there are the same morbid conditions, which manifest a greater degree of violence, with which the poison has been operating. The rash may be more lively, and present itself over a more extensive surface of the body, confining itself chiefly to the feet and ankles. In this form the nervous system is more pow-

ally affected: and the throat upon examination will be seen to present not only that reddened aspect, as in the former case, but a greater amount of turnidity and swelling. From the very first in ~~the~~ virulent cases, there are abundant mucus secretions, which cling to the tonsils and to the palate, sometimes obstructing the nasal passages, thus giving rise to much suffering and pain.

Under these circumstances the free access of air is prevented, and the oxygenation of the blood accordingly impeded; which must needs increase the dangers of the

case. The disease runs on, the inflammation of the mouth and fauces becoming more and more violent, with ulceration and finally sloughing. The obstructions of the ~~nasal~~ passages are sometimes so great that the child cannot breathe, save with much labor and pain; nor swallow any liquid — the tongue casts off its white coat, which characterized its condition in the mild form, becoming much reddened and inflamed at the sides and apex; the lips also partake of the inflammatory swelling, and are dry and sore, so that they bleed at

almost every movement of the mouth. However, notwithstanding these unpleasant symptoms, the case is not to be regarded as hopeless; but under judicious treatment and careful manage-ment may recover.

In the variety called Varioloid Maligna, the rash comes out very imperfectly, which is generally of a bluish tint; it makes its appearance at a late period; sometimes suddenly disappearing and then reappearing. There is great prostration of the vital powers the vomiting is violent and there is great pain in the arms and legs.

The temperature of the body is fluctuating; in cases of extreme prostration the skin is cold - the throat is fearfully swollen, the uvula, tonsils and soft palate are flaccid, upon the surfaces of which are deposited black lymph in large quantities; a discharge of fetid matter takes place from the nostrils, and the atmosphere of the room is contaminated by the offensive effluvia arising therefrom. Frequently, under these circumstances the patient becomes rapidly exhausted from the malignant effects of the poison, and dies in a few hours. In this

variety of the disease, the Prognosis is unfavorable: Medicine can accomplish but little — the obstinacy of the disease seems beyond its control.

There is another variety which it may be necessary to give some notice, which is called Scarletina Latens. In this there are no diagnostic symptoms, in which to place much reliance: no sore throat, and no rash; but simply a little fever, followed by the scaling off of the cuticle, and sometimes Anasarca. This is the case in some Epidemics. These not unfrequently terminate

fatally.

Children who have suffered severely from Scarlet Fever, are apt to become scrofulous - taking on many Chronic forms of that disease. Boils ulcers scrofulous swellings of the glands of the neck and of the lips, with inflammation of the eyes, which assumes a Chronic character. Another very common and infact one of the most common sequels of Scarlet Fever is Anasarca; which is sometimes very serious; there is serous effusion in the areolar tissue; very often extending to dropsy of the larger cavities: these are frequently accompanied

with fever, and are called Febrile dropsies: they are more common after the attack of the mild than the severer form of Scarlet Fever, a circumstance thought to be due to the fact that in the milder cases, there is not so much care or caution taken during the period at which the scaling off of the cuticle takes place. The patient after the fever has subsided, goes out, or is exposed to sudden draughts of cold air, which circumstances have a tendency to prevent the escape of the miasm from the body: the new cuticle just forming is soft and inelas-

ble of resisting the influence of the cold air. This dropsical affection is more common in children than in aged persons: it seldom occurs in patients beyond ten or twelve years of age.

As to the cause of Scarlet Fever many different opinions have been entertained. It depends, of course, on some unknown agency, producing epidemic influences; but in what that influence consists, it is beyond our present means to find out. The most important point in reference to this troublesome malady is, is it contagious; does

it propagate itself by contagion? It certainly does: its immediate cause is contagion. This contagious poison, whatever it may be, is a very subtle agent, it clings to clothes, and to articles of furniture: and strange to say, it remains for a long while, still being capable of propagating itself whenever an individual is exposed to its influence. Scarlet Fever is a disease that is almost exclusively confined to children; few children escape its contagion. The most malignant type of the disease may

be taken from the mildest case; and vice versa, the mildest may be taken from the most malignant form. This disease seldom ever makes its appearance a second time.

It has been over two Centuries since Scarlet Fever was first known on this Continent, at least as a distinct disease. It is thought to have existed for a long time, and to have been confounded with measles; the differential characteristics of the two diseases were first described by Dr. Withering.

The first onset of Scarlet Fever

is first marked by vomiting and sick stomach, thus fixing it and the passages leading to it as the organs involved. While measles ~~is~~ generally ushered in by catarrh, sneezing, a slight inflammation of the Conjunctiva, with Cough and hoarseness: indicating the tendency of the disease to fix on the respiratory passages. Again there are in Scarlet Fever, especially in the severe Anginose and Malignant forms, extensive inflammation and ulceration of throat, which are necessary concomitants of those forms of the disease. There is also

a difference between the eruptions of the two diseases: in measles the rash stands out more prominently on the surface, and is of a darker hue: the papulae are clustered together in semilunar forms leaving between them spaces of healthy skin. The rash in scarlet fever consists in numerous little red points which seem so crowded together as to present a universal redness over the surface; then be, in the face neck and chest, thence proceeding to the extremities, until the entire surface is covered with the same characteristic blush. The papulae are of a deep scarlet

color, which is generally most marked about the folds of the bodies, the groins, the flexures of the joints &c. Finally the eruption in Scarlet Fever comes out on the second day, while that of Measles does not make its appearance till the third or fourth, and sometimes the fifth day. But notwithstanding the difference between those two diseases, frequently is one mistaken for the other: that is Measles may be taken for a mild case of Scarlet Fever; but it is only in the simple forms of that disease that we are sometimes misled. In the Anginose and Malignant forms, there can be no misjudgement. But

in every case in which the invasion has been marked with fever and sick stomach, and the appearance of rash within forty eight hours, Scarlet Fever may be suspected: Having thus pronounced in our own minds the Prognosis of the disease, we should proceed to investigate its history and examine well the symptoms in order to know the best mode of treatment.

The susceptibility to the influence of the miasm producing Scarlet Fever is different in different individuals being greater in some than in others.

Scarlet Fever has a fixed period, being from five to seven days, at

the close of which time the diseased action naturally ceases, unless the functional disturbances have been so great as to destroy life, or such lesions have been produced as tend to keep up the irritative influence.

In regard to the mortality of this disease, death is liable to occur from the disordered condition of the nervous system in twenty four hours. If this danger is once overcome the patient will linger to the end of the first week. Proportionally the greatest mortality is found to be, in the 2d week and is due as its cause, to inflammation of the brain and lungs, & the violent depression of

the vital powers. It necessarily follows, therefore, that the Prognosis must be indefinite. Our Prognosis should not be too hastily pronounced. 2nd From the nature and Character of the disease we should not be rash in giving our opinion as to the issue, but rather look upon the case, as it runs its course, with anxiety and with care. 3rd There is no case so terrible in its aspects that we may not at least hope for recovery: nor is there on the other hand, any case so trivial in its symptoms as to justify unchecked anticipations as to the result. In the simple type of Scarlet fever the Prognosis is much

more favorable than in the Acute disease, and much less in this than the malignant. One of the most favorable signs in any of the forms, is a free perspiration. Another very favorable sign is the reduction of the heat of the skin, that is if it do not fall below the normal temperature of the body. The condition of the urine also is a sign to which much is attached to aid us in framing our Prognosis. So long as the quantity passed, is normal, or nearly so, and there are no deposits of blood, and there is no albumen detected by the regular tests, these need be but little fear in giving a favorable Prognosis.

Scarlet Fever should be treated according to the nature of the case; the symptoms should be treated as they manifest themselves in the progress of the disease. First in the treatment of the simple form of the disease, little else than good hygienic measures is necessary. If the patient is inclined to be costive, mild laxatives should be given. The patient should be kept in bed and subjected to a very spare diet: Cooling draughts acidulated a little, and where the skin is much heated, with severe burning sensations, cold sponging are the means found to be the most highly useful. Lemonade

is a very good form of drink and may be given with good effect. Often in the beginning of the disease an emetic is found to be beneficial.

In Scarletina Anginosa, when the patient suffers from intense heat and burning in the skin, cold or tepid sponging should be employed.

Should Delirium supervene, the scalp should be shaved and cold applications made use of; and if the pulse is high and strong, some blood may be taken away by application of leeches behind the ears.

If the fever be high with violent Delirium blood may be taken from the arm, which, however, should be

done with much caution, at the same time noting the result. Acid purges are useful. Where there are no cerebral disturbances to cope with, all that can be done is to regulate the bowels by mild laxatives — In this form of the disorder the principles of treatment are: not to interfere unnecessarily; to take blood when the symptoms demand it, but to take no more than what is sufficient to have the desired effect. In the Malignant form of Scarlet Fever all our efforts cases anxieties will frequently be in vain. The patients sometimes rapidly sink under the first

impression of the poison on the system, with but little affection either of the throat or of the skin. Such cases can only be saved, if saved at all, by stimulants. A liberal use of wine and Cinchona must be resorted to to sustain the flagging powers of life, until the poison has in some measure passed away.

The throat becomes ulcerated and gangrenous, when the patient does not die from the first impression; in this case the system is reinoculated by the morbid secretions of the throat, under which circumstances also Quinia & Wine may be carefully given. Gargles also should

be employed to modify the ~~secretions~~ condition of the throat- and to check the liability to further inoculation of the system in the poison. Chloride of Soda ~~in so-~~ lution may be of use in this way; or a solution of the nitrate of silver; but about the best purge is made by infusing an ounce of red pepper in a pint of boiling vinegar and water. If the patient be too young to use the purge, it may be applied by means of a Probang, or it may be injected into the nostrils and fauces by a Syringe. A solution of the Chlorate of Potass (3i to Oi) in water makes a good drink for patients, in Scarlet Fever — Chlorine is

considered to be a good remedy: it may be used both externally and internally. The condition of the bowels should be attended to, and not allowed to become costive. The patient should not be allowed to leave his room too soon after his general condition has began to improve; nor to be exposed in any way to a cold damp atmosphere, during his convalescence as many troublesome Sequelae are apt to follow — dropical symptoms are apt to appear as a consequence of the neglect of hygienic measures in the convalescent condition of the patient. If however they do come on, and are mild, they may be lessened

be purgatives and Diuretics — Under these circumstances the patients are pale and Exsanguine — to relieve this condition, the muriated tincture of iron with tincture of foxglove may be given with good effect. Diaphoretic agents are also highly useful, in addition to which a warm bath may be had resort to — repeating it every night, according as the case may demand — To modify the contagious influence of Scarletina, and obviate, perhaps entirely the dangers of Communication, Belladonna has been found to be of exceeding value: and much testimony has been produced by different Authors in favor of

its being a great preventative.
The mode of exhibition recommended is, to dissolve three grains of the extract in an ounce of distilled water; of this two or three drops may be administered twice a day to a child under one year of age, increasing the dose one drop for every year.

Lastly, when the disease has run its course - all the remedial measures having been employed by the Physician to his own satisfaction and that of the anxious Mother, it is to be borne in mind that the Child, although apparently well and in a fair way to regain its former good health, is not to be regarded

as free from the perils attendant upon too sudden exposure. It is therefore the duty of the Physician to impress this fact on the mind of the Mother or Nurse, in order that she may be awake to the serious consequences that are apt to follow imprudence.

1867

A Clinical Report

Submitted to the examination

Of the

Provost Regent & Faculty of Physic

Of the

University of Maryland

For the

Degree of Doctor of Medicine

by

W. J. Piper

Of

Maryland

The time has at last arrived
for me to place before you
Gentlemen Fourth of the
University of Maryland either
a Thesis or Clinical Report
Of the two I have chosen the
latter. Impressed by the fact that it
Man must work you sir to obtain
The Cases from which the following
report is taken were put to
admitted into the Baltimore
Infirmary and treated the writer
Superintendence of a Member of learned
body the Faculty Unwritten The
treatment in all was the
same pursuing - as might be recommended

by Todd, Chambers, Hunt and
many other distinguished physicians
of the present day. With this I send
introductory permit to thank
you for your kindness while
connected with the Baltimore
Infirmary and proceed with my
Report—

W. J. Tilden

Case 1st Emily Watkins, a native of Baltimore fourteen years of age, by occupation a servant, was admitted into the Baltimore Infirmary Apr. 10th States she has been sick one week. Has always been healthy, and never has had any sickness, save an attack of fever, which only lasted a few days; this was about two months ago. She is living in a healthy part of the city, and never has had any chills. The present attack commenced about one week ago, with severe pain in right side which has continued up to the present time though not as severe as formerly.

Is at this time suffering with severe
pain in the head and the right side
bowels have been regular, and passes
urine freely has cough which is
worse at night and causes pain
in the whole chest, mouth dry, tongue
dry and coated, expectoration white,
and very tenacious dullness on percussion
over the whole right side, both anterior
and posterior, by auscultation a fine
crepitant râle is indistinctly heard,
pulse 116 and very weak respiration 36
and hurried. Diagnosis some true pleurisy
from mania with probable some
tubercular trouble the following treatment
was ordered Rx Quinia Sulphas gij
every three hours

Treatment has changed to the left
breast has stopped, and the fever
subsided has been reduced 2 or 3 in twenty
four hours. Diet-Milk broth, with
bread butter and meat at dinner
Evening. Patient still complains
of pain in chest, seems much
depressed in spirits, is drowsy at
the time, cough has not troubled
her to day, breathing considerably
oppressed. pulse 88 full regular
and soft- respiration 40 but-
ter. Urine must-Colored Sputa
made its appearance for the
first time to day. The abdomen has
cleared up considerably, remains only at the
upper part of the tumor general expression

of Pneumonia both. Skin moist,

13th Patient does not seem quite so well as yesterday, Still dullness, and bronchio vesicular respiration over top of right lung, Pulse 84, respiration 34. Evening. Patient much better, pulse 86, respiration 24. the sputa is clearing up again also the dullness from the dullness in clearing up of lung gives hope of simple acute disease

14th Patient improving very fast does not complain of any pain. Cough is much better. expectoration almost healthy, Skin moist and of a healthy temperature, Can take a long breath without any inconvenience. pulse 80

respiration 28. Evening. The general
condition much better, pulse and
respiration same as this morning.
Bowels have not been moved for
four days
16th Patient is rapidly & completely
well, tongue moist, but some little
fever, pulse 64, and occasionally
intermittent: respiration 20, and
easy. Patient can sit up without
any great inconvenience. Lung has
entirely cleared up, with the exception
of a little prolonged expiration at the
bifurcation of the trachea. All treatment
was stopped to day and full diet
ordered. 17th Patient is walking about the
room and was pronounced convalescent

Case 2d. Eliza Larkin, a native of
this city by occupation a servant
is ten years of age: was admitted
into Baltimore Infirmary Apr. 20th.
Father is dead; Mother is a patient
at this time with Typhus fever.
She has all the appearance of having
been a healthy woman, though too low
at this time to give any account
of herself. She has had, it is said,
has had a severe pain in her back
for a long time, while lying on her
left side, or sitting in an erect
posture. Is now suffering with same
pain: has cough with the characteristic
signs of pneumonia: dullness on percus-
sion over left lung, with a fine crepitant
rale. Mouth dry; tongue dry, and coated

[illegible] 135, quick, and feeble; [illegible]
46, and [illegible] 2 [illegible]. He
following treatment was ordered,
℞ Potas. Nitrat. grs ij
Pulv. Opii grs i
Pulv. Ipecac grs v
Misce et ft in Pulv.
[illegible]
℞ Port Wine. ℥ss
S. every two hours
℞ [illegible] x
S. [illegible]
Oil silk jacket to chest
21st [illegible] Pulse [illegible]
[illegible], [illegible]; Cough is much
better; Sputa not so high colored.
Slept well last night; Pulse 108 Strong.

A. M. [illegible] Pulse [illegible] Respiration 40
[illegible] a great deal easier. Evening
Patient is much better; has not so much
pain in chest; expression of countenance
[illegible]
little exalted; Cough is improving; Sputa
less; not so much colored, and less in
quantity; Pulse 102; Respiration 36. Urine
[illegible] reduced to one ½ pt in twenty
[illegible]
22d Patient is much better; pulse 104, and
[illegible]; respiration 30, and not in the least
oppressed; All symptoms point to a
speedy convalescence
23d Patient did not sleep well last
night, the Dovers powder being omitted;
pulse 100 softer than yesterday; respiration

2- and easy. The powder given on the 20th
was ordered to be stopped, and the following
given. R Tinc Cinchon Comp. ℥i
S three times a day.
Powers powder not to be given, unless
restless. Evening. Patients general condition
much improved; is not suffering with
any pain or spasm complaining of
102; soft; respiration 28, and easy.
25th Patient is better this morning; sullen
has cleared up; almost entirely; pulse
[illegible], soft, and compressible; respiration
24, [illegible] easy. [illegible]
[illegible] Evening, Patient improved.
Though a little drowsy; Cough has
[illegible] left her, and no expectoration
[illegible] morning; pulse 86; respiration 22.

27th Patient better [illegible]

[illegible] ordered to be stopped, and

[illegible]

S—three times a day

℞ Oleum Morrhuæ Zi

S—three times a day

[illegible] and very firm respiration 20.

[illegible]

sitting up the greater part of the day.

Is no trouble in taking her breaths:

[illegible]

28th Patient is up, and walking about

the room: was to day pronounced convalescent

[illegible] Discharged.

[illegible]

Case 3d Willie Spence, born
this city, by occupation a hotel
servant; was admitted into the
Baltimore Infirmary April 10th. Is
thirty years of age; parents are both
dead; [illegible] three years
since attended with pain in the
abdomen, [illegible] health since
that time; knows not with what disease she
died. Has lived in a malarious part
of the city, and frequently had
intermittent fever; also had an
attack similar to the present
some time ago. Was taken sick
on Saturday last with chill, followed by
a high fever, from which he never
rallied. Died the [illegible]

with chest pain; pain on left side,
which has continued to the present time.
Patient states he has had frequent
chills; has no pain; no sore throat; mouth
dry; tongue dry, and coated; has had
severe cough; appetite not good,
but drinks freely; bowels regular
and pass urine freely; pupils unequal
and contract irregularly with light; on
percussion dullness over left lung;
auscultation reveals the pathognomonic
crackle of pneumonia, with total
absence of vesicular murmur; pulse
104, full, rapid, and quick; respiration 30,
and hurried. Diagnosis pneumonia. The
following treatment was ordered by the
attending physician, Dr Donaldson

℞ Potas Iod 1 dr
Spts Æth Nit 1 dr
Syrup Scillæ aa ℥i
Aq ℥vi
S teaspoonful every 2 hours
℞ Tinc Gentian Comp ℥ij
S 1 teaspoonful each meal
Blist applied to front of left lung
Bled to 8 ozs. Cut with facial
to chest. Evening, Pulse 120 resp
pulse 108; respiration 32.
12th Blist removed. Left Pect
Mouth sore & dry; tongue & lips
Cough about the same: Expectoration
still copious and tenacious
Slept very little night-long continued, and
delirious not so marked yesterday

[illegible] 36, and somewhat oppressed. Evening.
Patient says he feels a little better.
Complains of thirst; which is drawing to
[illegible] Chest not expanding freely, but
abdominal muscles do [illegible], the
difficulty: Cough better: Pulse [illegible]
Neither so tractious, nor so [illegible] Pulse.
75: Respiration 36.
13th Patient is [illegible] No doubt to taking cold. Slept well
last night, having had an anodyne at
bed time: Pulse low: respiration
and very much oppressed: Spts.
Ammonia Zjss was ordered to be given
every three hours, and the Cough Mixture
continued with the [illegible]

Evening. Patient's general condition not much changed: Pulse 130 resp. 36: some little cough.

14th Patient's condition about the same. Did not sleep much last night: Black tongue not so dry as it was: effusion into pleura less: but the extreme absence of vesicular murmur noticed on the 10th: Pulse 120, firm and resistant: respiration 40. Evening. Patient seems to have more trouble in breathing: has a constant tendency to cough, which he tries to prevent. Skin seems moist, and he appears to be perspiring about the head and neck: Sputa not so much in quantity, nor so deep colored: more of a

mucous [illegible] character: pulse 112, quick and rapid: respiration 44, and very much hurried: still dullness on percussion.
16th: Patient is much better, slept well last night: cough little: expectoration [illegible]; dullness on percussion, has cleared up to a considerable extent: weak bronchial respiration is heard [illegible] of scapulae: mucous respiration is heard in front: a little fine crepitant rôle at end of inspiration. Still expects: pulse 80, soft, and not in the least frequent: respiration 20, and not at all hurried. Evening. Patient is improving rapidly: Cough has entirely ceased: [illegible] moist; though a little [illegible]

In Cerebral Palsies was to day pronounced
Convalescent, and will be sent
Home to be stepped Nourishing
Diet given. Flavoured tea recommended,
as [illegible]
[illegible] is able to sit up in bed
to day, and converses without any
inconvenience.
[illegible] is very [illegible]
ness; will leave the Infirmary this
evening. It will be recollected that
the Patient is [illegible] labours
and the respirations 28 times, to the
Minute, in 36 hours; while giving
sufficient stimulant to produce
intoxication in a healthy man.

Case 4th James S. admitted
into the Ballin Infirmary, boy of
20 years old by occupation a Stone plat
Operator was taken sick on the 5th inst
with general drowsiness, was well and
hearty up to that time has not been
able to attend to business since
went to bed on the 7th and on 9th
sent for a physician who gave him
some purgative medicines but among
the rest since then bowels have been
loose stools watery. Has now no
symptoms of any disease of the chest
has an eruption over his body, which
came out on Sunday, first on face,
then over whole body, is somewhat
raised, and disappears on pressure

has gurgling in right illiac region:
Eyes are injected: Skin hot, and
dry: Abdomen tympanitic: Stupid
expression of Countenance: Diagnosis
Typhoid fever: The following
treatment was ordered:

℞ Spts Terebinthi ℥ss
S- every four hours
℞ Acid Hydrochlor gtt x
S— every four hours alternating
with Spts Terebinthi.

17th Patient is much the same: Stupid
Continues: Nose Colored. Spots are
increasing in number: Skin very hot,
and dry; tongue is still Coated:
Pulse 96. The treatment of yesterday
was ordered to be adhered to and

The following given.

℞ Ammonia Carb. gr XX

S [illegible] to h.

℞ Spts Vini Gallici ℥ss

S- every two hours, alternating with Ammonia Carb. Evening. Patient is Semi [illegible]. Pulse 94, and very feeble.

18th Patient is improving. The recorded Spirits are diminishing; expression of [illegible] better: decubitus has not changed: Pulse 96, quick and weak.

Patient [illegible] Pulse 90, skin hot, and dry.

19th Patient Spirits [illegible], after [illegible] is [illegible] quite stupid [illegible] has considerable gurgling in

[illegible] Pulse [illegible]
[illegible] Skin dry, and hot.

20th Patient has changed very little since yesterday: tho' not sleeping well last night; is very restless, and answers questions rather delirously: Pulse 112: Skin dry, and hot.

21st Patient is some better to day: has not the tenderness on pressure that he had yesterday: Skin not so dry and hot: Pulse 110 firmer, and [illegible]

22d Patient is better, but exceedingly weak: in mental perceptions of what is going on does not appear [illegible] Pulse 88, strength about the same, as

yesterday; rose colored spots have [illegible]
[illegible] time; Abdomen suffers, and not [illegible]
[illegible] fever.

24th. Patient is still improving; pulse
84, and weak. The Ammonia bark. was
ordered to be stopped

25th Patient is better, has still slight pain.
Skin is moist; tongue moist, and
clean.

28th Patient left; bowels ordered to be stopped,
and the following given

℞ Ext. Columbo
Ext. Cascarillæ aa ℥i
Aquæ Calcis ℥ iv.
S— Teaspoonful before each meal.

30th Patient was to day pronounced Convalescent
will be [illegible] stopped, and good diet given.

Case 6th Charles Pagen. Admitted into
the [illegible] Sept 1.
Patient seven years of age, by occupation
a Sailor, and a native of this city.
He states that his parents are both
living, have always been healthy, and
to the best of his knowledge, has
[illegible] any relations with any
[illegible] He never had to
[illegible] always been healthy
[illegible] with the exception of a few
days sickness about three years ago.
[illegible] not know what it was to have been
sick, [illegible] for [illegible] Patient is [illegible] with pain in head, and limbs has
[illegible] pain [illegible]
[illegible] thermometer not in the least colored,

[illegible] [illegible], and flushed. Skin dry, & hot.
[illegible] [illegible], quick, and weak. Respiration
[illegible], and [illegible] [illegible]
examination reveals, On percussion dullness
over lower lobes of both lungs. On
auscultation a fine crepitant rale
over middle lobes of same. The
following treatment was ordered.
Apply hot [illegible] ½ hrly over chest
Oil silk jacket to chest, and, as
nourishment, beef tea and milk ad
libitum.
9th Patient is in about the same
Condition as yesterday No material
change having taken place. Crepitant
rale heard over dorsum ilii, and evidence
absence of vesicular murmur over lower

Rales of both Lungs. Evening Patient is
not so well as he was this morning.
Expression of Countenance more anxious.
pulse 140 and respiration
60. Dovers powder gr x was ordered for him
at least twice.
9th Patient is much better this morning
pulse 8 x and full respiration 32 and
apparently easy. Other symptoms as
the same. Evening Patient is worse this
evening pulse 130 quick and exceedingly weak. respiration
38 and hurried.
10th Patient is some better this morning
having slept well the latter part of
last night. pulse 102. respiration 34.
expression of Countenance more calm.

Evening. Patient is worse: had a slight-
chill at 2 P.M. some bleeding at the nose
pulse 120. and weak respiration 40.
although apparently easy. In addition
to former treatment Quinine Sulphas gr V.
three times a day, was ordered.
11th Patient was worse last night being
quite delirious. Consequently did not
get any sleep. Is better this morning
mind perfectly clear tongue moist, but coated
brown centre, and yellow moist, particularly
hands and face: pulse 92. Urine
yesterday: respiration 24. and not as bad
as last night. the respirant-vocal sphere
of the 4th Int. costa. Int. Int. not as
loud. Can distinguish a slight
rale although not very audible.

Evening Patient worse than this morning.
Pulse 5x: respiration 27. Skin hot: tongue
dry: delirious more than it was this
morning
13th Patient still in precisely similar manner
to that in which he heard. Skin moist
and cool. tongue moist: pulse 64:
respiration 20: expression of countenance
better. Evening. Patient seems quite easy
does not complain of any pain: pulse
60. and full. respiration 20. The effects
from Calomel was ordered to be stopped,
and light but nourishing food
given instead.
14th Patient's general condition much
improved. appetite good and is ordered
food and tonic.

15th Patient is much better this morn.
Can sit up in bed without an
inconvenience. Every thing points to
a speedy recovery. The Jamine
was ordered to be stopped.
16th Patient better, and is able to
get up, and dress himself.
Was to day pronounced convalescent.

AN

Inaugural Dissertation

ON

Acute Inflammation,

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

Francis X. McLaughlin.

Of

Virginia.

Session of 1866-7.

Feb. 15th 1867.

Acute Inflammation.

I cannot more appropriately enter upon the investigation of the causes and effects of Inflammation, that subtle enemy of the physical system of man, than by a definition of the radix of the term itself.

The term inflammation is derived from the latin *inflammo* (to burn), so called on account of the burning pain felt in the part affected.

Inflammation is a complex morbid process, in which while a portion of the vessels of the part inflamed are in the condition of active Hyperemia another portion exhibits the characteristics of a peculiar (inflammatory) congestion, marked by stagnation and coalescence of the corpuscles with exuda-

tion of serum and lymph.
This peculiar morbid condition is one of the utmost importance to every surgeon and physician; because there are but few diseases of a serious character which run their course without the occurrence of inflammation at some period of their progress. Hence the necessity for a most careful investigation and thorough acquaintance with its phenomena, its diversified products, and the relation of its various processes to each other.

Acute inflammation is that variety which is violent in its attack, and rapid in its course, and may be defined a pathological condition characterized by unusual redness, heat, pain, tumefaction, and change or arrest of the functions

of the organs or part affected.
We may have, however, an occurrence of one, or more, of the symptoms, without the presence of inflammation; nor is the absence of one or more of them incompatable with its existence.
I will not enter into a detailed consideration of the numerous and diversified causes producing inflammation, but shall notice them briefly, and proceed to examine its various phenomena, products &c.
The causes may be divided into predisposing and exciting; of the former, we see examples in those whose vascular systems are irregular, as the result of original conformation, or induced by previous disease- those who have been subjected to fatigue, confinement, impure

air &c. Of the latter, we have mechanical, chemical, and vital irritants; also, those producing congestion as cold, malaria, suppression of natural or habitual discharges &c.

The phenomena observed in the process of inflammation, are curious and interesting. Place, for example, an irritant as a drop of nitric acid on a living tissue, and observe the effect. The first change that is perceived is a contraction of the vessels, momentary and spasmodic, as it were, retarding the flow of blood to the part. This contraction is speedily followed by dilatation and increased flow of blood. The seat of the primary part of the process of inflammation, is thought to be in the nerves of the part, but to

this conclusion Pathologist have not fully arrived. And as this may be true of irritating causes, many authorities do not regard the nerves as its essential seat; because many of the agencies producing internal inflammation, seem to produce their effects without any marked implication of the nerves. I am of opinion, that so far as is at present known, the blood vessels and their contents are the essential seat of the whole process of inflammation; and though irritating causes, as above stated, act on the nerves also, yet others, as cold, operate chiefly on the blood vessels and contents only. Hence, we find that causes predisposing to inflammation, are circumstances interfering with the action of

The vascular system.

I will next notice the changes produced on the vessels and contents, and the attending phenomena. The vessels are enlarged, as may be observed from the redness with the naked eye. Enlargement may also be seen in congestion, but there are other symptoms which are not observed in congestion. We have greater heat and pain, abundant effusions, a florid redness, instead of lividity, as in congestion, violent pulsation of the arteries, increased motion of the blood, and lastly, the various products which are quite sufficient to satisfy us that we have inflammation.

The causes of, or conditions necessary to, the production of this enlargement of the blood

vessels, requires further research. The most plausible theory, however, and the one most generally adopted, is, that the tonicity or irritability of the structures of their walls is impaired, perhaps by the previous excessive stimulation.

Another interesting phenomenon of inflammation is the fact that the flow of the blood is partly increased, and, at the same time, partly diminished. The former condition is seen in the rapid passage of the blood through the arteries; the latter in the stagnation in other obstructed vessels in the part.

Many hypothesis have been framed for the purpose of solving the difficulty which exists in regard to understanding the cause of this obstruction. As far as

has been ascertained, it would seem to be due to the increased production of the colorless corpuscles of the blood, and their adhesion to the walls of the vessels, and to each other; to the increased mass of blood in the minute vessels, and to the diminished "contractilité de tissue" of their coats. The blood, also, undergoes important changes. We find the fibrine and white corpuscles greatly increased in this affection. I think the latter, especially, are more in excess, probably, than the fibrine. Now, in estimating the quantity of the latter, the white corpuscles are not taken into the account. They have never yet been separated from the fibrine of the human blood; their

composition is unknown, but in the estimate of fibrine, we have their weight included. Now, it is evident, that the white corpuscles are increased, and I think it very probable that a portion of the supposed increase of fibrine may be due to their being weighed with it. Having noticed the effects of the inflammatory proces on the blood vessels and their contents, I will now consider, seperately, the symptoms to which we before alluded. The symptoms are divided into local and constitutional. The local occur in the part which is inflamed; the constitutional affect the whole system. The local are, redness, heat, pain, tumefaction, and change in the function of the organ or part.

The redness of an inflamed part, I think to be due chiefly to the increase in the quantity of the blood in its vessels, the vessels as before stated are distended, the finest capillaries, which in a normal state are invisible, are now distinctly seen, dilated and filled with red blood. The proportional increase in red corpuscles, by the exudation of serum, may assist in some degree. Some observers have conceived that new blood vessels are formed by the blood as it forces its way through the tissues. This notion I think erroneous.

The heat of inflammation depends greatly, perhaps solely, on the increased flow of blood through the part. This is evi-

dent from the fact that in proportion to the violence of the inflammation is the heat increased. I do not believe in flammation, as supposed by some, a calorific process by any means, for many experiments have been instituted to determine this point, and in no instance was the temperature found above that of the ~~the~~ interior of the body.

Tumefaction may partly be produced by the enlargement of the blood vessels in an inflamed part, but the main agencies is the effusion from the distended vessels. The form and degree of the swelling will depend much on the natural structure of the part involved. In the mammary gland, the scrotum or any of those loose cellular structures,

the swelling is often extreme, while in parts composed of dense fibrous tissue, but little exists.

The principal cause of pain, is the pressure on the minute nervous branches by the turgid blood vessels: in some degree also, perhaps, by the exalted sensibility of the nerves, which is produced by determination of blood

Inflammation is attended ~~with~~ with constitutional symptoms, the severity of which will be proportional to the intensity of the inflammation, the amount of local irritation, and the vital importance of the organ involved. The constitutional disturbance in inflammation assumes the form of fever. This is called in-

flammatory, symptomatic or surgical fever. It presents a great variety of forms, the principal of which are called sthenic or typical, asthenic or typhoid, and irritative or nervous.

Inflammation has two true terminations, resolution and metastasis. When it terminates by resolution, we find the effusions removed by absorption, the obstruction which existed in the blood vessels yields, and the part is restored to its normal condition.

By metastasis is meant a change in the seat of the affection, its sudden disappearance in one part and appearance in another. This rarely occurs.

Besides the true terminations of inflammation, we have it

passing from its primary condition to other forms of the disease. Thus, where we have effusion of lymph, it is called adhesive; the production of pus, ~~xxxx~~ is called suppurative, formation of an ulcer, ulcerative; death of the part gangrenous.

At an early period in the process of inflammation, the turgid blood vessels, in the attempt to relieve themselves, throw out an abundance of serum, resembling that resulting from congestion, except that it contains a little more animal matter. This is followed by the effusion of fibrine, called also lymph, plasma and coagulable lymph, giving to the swelling a degree of hardness as may be seen in boils,

thickened mucous membranes, &c.
Of this effused lymph there
are two varieties; called plas-
tic and aplastic, or corpuscu-
lar. The plastic is the true
coagulable lymph, and plays an
important part in the repa-
ration of injuries, and rebuilding
destroyed tissue. It is met with
in the healthy and vigorous. The
aplastic or corpuscular, possesses
no power of coagulating, but con-
sists chiefly of what are called
exudative corpuscles, freely
floating in a serous fluid, and
is found in cachetic and scrofu-
lous constitutions.

We now approach the suppurative
form of inflammation, which
is attended with many inter-
esting phenomena. It is charac-
terized by the production of
pus. This, when it results from

active inflammation, in a healthy subject, is an opaque, creamy, thick fluid, of a yellowish green color, has a slight faint odor, and a alkaline reaction. This is called landable or healthy pus, and consists essentially of pus-cells, resembling in some degree, the white corpuscles of the blood. There are several other varieties, the sanious or bloody, the curdy or cheese-like, and the muco-pus and sero-pus.

Pus is, I think, a true product of inflammation, and not the disintegration of the solid tissues, as was thought by the older surgeons.

That form of inflammation which results in the formation of an ulcer, is called ulcerative. The changes produced in the tissues by this process, are not

yet clearly understood, but there is no doubt that they consists essentially of the molecular death of the tissues, and the detachment of the dead matter, by a peculiar action of the adjacent living structures.

Lastly, gangrene or sloughing may occur from the intensity of the inflammation. And this may take place, even if the part be sound and the patients general health unimpaired.

Most usually, however, it is where there is debility, local or general, by which the vital power is reduced.

Treatment. The treatment may be divided in local and general and constitutional.

In the local treatment, if the inflammation be external, as for instance, that resulting

from a wound, the first indication is remove all sources of irritation, and as rather a preventative agent, we apply cold ~~spar~~ evaporating lotions. If the tendency to inflammation be great, the application of cold by irrigations, is very beneficial. These are the means usually had recourse to in the earliest stages.

When inflammation has actually commenced, the abstraction of the blood locally, by cups or leeches, is found of great benefit. Of course, as the disease progresses, the treatment may be modified, and the surgeon must be guided by the condition of the patient, and the state of the inflamed part.

Constitutional treatment. If the inflammation be but slight, a mild aperient will perhaps fill every indication. But should the sthenic variety present itself, and the patient be strong and plethoric, we must have recourse to bold and energetic measures. Bloodletting is the most potent and beneficial remedy we can use. And in the abstraction of blood, we should exercise some precaution with regard to the position of the patient. He should be placed in a sitting, or better still a standing posture, and be bled from a large orifice, in order to produce the greatest impression on the system, with the least loss of blood. Cathartics are

of very great service. One of the best of these, if not the best, is mercury, or some one of its preparations. Opium is an excellent remedy in this form of symptomatic fever. It exercises a soothing effect upon the nervous system, and also modifies, to some degree, the heart's action. An excellent mode of administering it, is in combination with some one of the mercurials, as calomel. In the treatment of the asthenic or typhoid variety, we direct our remedies especially to the support of the patient's strength. A gentle laxative may be given to move the bowels, then tonics and stimulants, constitute our most reliable remedies; brandy, wine, ammonia, &c.

In the irritative, the tendency is to great nervous disturbance, sometimes to wild raving delirium, followed by extreme exhaustion, and unless relief is had, speedy insensibility and death. Here, we must use anodynes to relieve the violent nervous symptoms, and stimulants to support life's failing powers.

Francis X. McLaughlin
M.D.

AN

Inaugural Dissertation

ON

Pneumonia

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

Young A. Bond

Of

Maryland

Session of ..... 186*7*.

Pneumonia.

I have been induced to consider this subject, for two reasons. The first, is, that modern observers have been so assiduous and accurate in their observations as to divest it of all that is obscure or perplexing; thus placing a limit to idle and delusive speculations, which alone particularly enticing to medical writers. The second, is, that it involves a question of vital importance to the good of mankind to be determined, One that requires a just, prompt, and accurate decision. A question that agitates the greatest minds of the profession at the present day. I have reference to the theory of

drawing blood in the treatment of this disease. To the end that we may arrive at a correct conclusion concerning the merits of such a course of treatment, it is incumbent upon us, to clear our minds of all that would have a tendency to find or mislead us in coming to a correct conclusion from the facts offered, and not to distort our observations, or frame our facts to suit a pre-one conclusion; a fault so common and so hurtful to our profession.

Pneumonia is an inflammation of the parenchyma of the lung, that is of the lung substance,

There are many kinds of Pneumonia expressive of its site. Thus Lobular a condition in which the inflammation is restricted to the lobules. again we have chronic opposed to acute, &c &c. These each deserve the attention of a special treatise. I will therefore limit myself to the consideration of Acute Lobar Pneumonia.

Morbid Characters.

There are three stages of the disease, known as Engorgement, Hepatization and Resolution or Suppuration, named severally from the morbid conditions denoted by them.

Engorgement is simply an active congestion of the lungs and differs

in no respect from congestion of other parts, the lung presents a black appearance, and when cut a large amount of blood and serum are poured out, The air still enters the vesicles, but their caliber is much lessened in consequence of congestion, the next stage to this is, Hepatization or Resolution, usually the former, The lung is rendered solid by coagulation of the effusion into the vesicles, thus preventing the ingress of air, consequently a piece of lung in this condition will not float when thrown in water, One of the distinguishing features between this stage and the next, Ser H. hint

says that the lung is "white and anaemic" in this condition, and that red hepatization is a misnomer, this is an observation peculiar to Gairdner, the lung is more friable than in health, and when cut a variable amount of serum can be expressed, the cut surface looking granular from the presence of lymph in the vesicles. There is an increase in volume and weight proportionate to the exudation. It has been estimated that a single lobe may be increased in weight from one to two pounds. Resolution may be a sequence of either of the preceding stages. It is the process of recovery, or

return of the lung to its normal function,
The Exuded Lymph is absorbed and
carried into the circulation, Bennett
believes that pus is first formed then
absorbed and excreted from the sys-
tem, This explanation is of course
at variance with the doctrine of
modern physiologists; considering
their Estimate of the diameter of pus
globules, However, let the process be
what it may the result is the
same, The foreign matter is removed
and the structure of the lung thus,
indeed normal, with a resume of
healthy function,
Suppuration, If in place of resolution
which usually follows Hepatization

In suppuration supervenes, the tendency is very unfavorable. The affected tissues become infiltrated with pus, are soft and easily broken down, when cut more or less purulent fluid is discharged, the lung is greyish in appearance. These are the common results of inflammation of the lung, but like all other parts of the body it is subject to any or all the results of inflammation.

The morbid changes may be increased or altered by complications.

Pleurisy limited to that part of the pleural surface in contact with the inflamed lung, is most always present. It may take on any grade;

though it is generally circumscribed and attended with little or no ~~ex~~exudation. Exudation is more common, and is limited or extensive according to the extent of the pleurisy. When the diseases are thus associated and the pleurisy predominates in severity, it is written Pleuro. Pneumonia. Bronchitis also usually exists with this disease, not that there is any reciprocal relation as was formerly supposed, but probably from the existence of a common cause, they are coincident not consecutive the one to the other; like pleurisy it is very variable in degree.

The inflammation seems to exercise

a peculiar preference for the lower lobes, next the middle and lastly the upper lobe, especially when tuberculosis exists, and in consequence of which inflammations of that part of the lung are rendered very dangerous.

This represents the order in which the lobes may be affected, but in some rare cases the whole of one lung is inspired at once, or the part of both constituting double pneumonia. In lobar pneumonia the inflammation commonly arises from one or more lobules and extends itself to the whole lobe through contiguous parts and where more than one lobe is

involved, it is usually by extension from the primary seat of attack, thus often causing the three stages to exists simultaneously.
The diffusion of the disease may be very speedy, or occupy one or two days. Exudation when it occurs quickly ensues upon engorgement.
Having now considered the morbid characters of the disease, we will next treat of the means by which we determine its existence
Symptoms. The symptoms and physical signs are embraced in three divisions corresponding to the stages, and are the expressions of the morbid conditions assigned to those

Stages, Symptoms of the first Stage.
The disease is introduced very abruptly,
there are no morbid sensations preced-
ing as in many other diseases.
The patient is usually first seized
with a rigor, which may be either
very slight or somewhat protracted,
succeeding to this is considerable fever
with a pulse generally full and
hard, ranging from 80 to 120; also
heat of surface, thirst, anorexia,
dyspnoea with more or less increase in
respiration, and often some head
disturbance; Coincident with all
these symptoms, a lancinating
pain in the side is complained
of, which is trivial or more marked.

as may be, its mildness or intensity is usually considered a measure of the pleural complication. It is aggravated on pressure or motion, hence the partial suppression of the respiratory movements, which calls for an increase in the frequency of the act, inorder that the blood may be duly oxygenated. Cough is most always present, and the pain occasioned by it commensurate to the severity of the pleurisy.

The sputa is first scanty, translucent and tenacious, usually but not always. It soon assumes a rust colored appearance and is then known as the rust colored sputa

of pneumonia, and is reckoned pathognomonic of the disease. It is semi-transparent and very adhesive, clings tenaciously to the walls of the vessel when everted; it is the product of the admixture of blood and mucous, sometimes the reddish tint is wanting, while it possesses all the other properties. It may be absent in some cases when only a small part of the lung is involved, connected with this differing essentially from the symptoms of the first stage are those of the second. The fever still continues, but with less intensity, cough and Expectoration are present.

the cough occasioning little or no pain and the Expectorated matter freely thrown off. the Sputa changes from the rust colored to an opaque and less viscid condition, also more abundant, coming chiefly from the bronchial Tubes & the affected lobes.

Symptoms of the Third Stage.

The approach of the disease to this stage is an eventful period, we either visit a joyous and exulting home or we come to the cheerless realm of sorrow and death, or what soon will be; This stage may be either of two conditions, Resolution or Suppuration.

we will first notice the events of the former of these terminations. When the disease has reached its acme, it assumes the former of the two conditions. The febrile movement becomes less, the appetite is restored, respiration becomes natural, cough and dyspnoea diminish. in a word the restorative process is general. If suppuration occur. the pulse becomes very frequent and small, indicating great debility, purulent matter is freely expectorated and there is great increase in the respiratory efforts. death by exhaustion soon closes the dismal scene and releases

the suffocation from the Farewell throes of Earth. The symptoms of pneumonia taken collectively point strongly to the disease, but supposing some of the more important to be absent, we would not be able with any degree of certainty to make out the disease, hence the necessity for Physical Signs.

Their value, lies merely in the knowledge that certain sounds obtained from the thorax, hold a ~~pa~~physical relation to peculiar conditions of the lung.

First Stage — Auscultation aids us principally or almost wholly in deciding that the lung is engorged

Percussion revealing comparatively nothing. In this stage we have rude or harsh respiration, from the presence of thin liquid in the vesicles, according to Dr. Gerhard. though I am rather inclined to refer it to the results of inflammation believing it to be caused by the passage of air over the uneven and unpolished surface of the air vesicle and smaller bronchiae tubes, we have also crepitant rhonchus which is considered pathognomonic of the disease. It resembles the sound produced by drawing on fine substances containing water of crystalization, such as salt &c

As to how this sound is produced writers are not agreed. Some consider it to be occasioned by the bursting of air bubbles formed in the transudations of the smaller bronchial tubes and vesicles. Dr. Watson favors this view, others refer it to the tearing asunder by the ingress of air, of adhesions formed between the two coats of the vesicles by viscid secretions. in the absence of post mortem to decide the worth of either of these theories, I am inclined to believe the latter more probable.

This sound may recede into the vesicular sound of health or give place to Bronchial respiration.

Signs of the second Stage.

On applying the ear to the chest we hear a whiffing or blowing sound which originates in the Bronchial Tubes, therefore called Bronchial respiration. It is a healthy sound but only heard under the favorable condition offered by solidification, the vesicular sound being absent and the voice by the tubes conducted. This sound is clear or obscure according as solidification is restricted or Extensive. It is most audible when the upper and middle lobes are involved, when the larger bronchial tubes are. When the lower part of the lower lobe

is solid it may not be heard at all. so when one or two lobules are hepatized it may be wanting also. Associated with this sound we have bronchophany, which is the voice resounding through the solid lung and chest walls. By percussion we have dullness or flatness, which is indicative of commencing and perfect solidification. We have positive evidence of solidification when there is flatness and total absence of sound.

Signs of Resolution.

The signs of this stage are those of the forming stage in

an inverted order, in place of
bronchial respiration we have
fine crepitation, which soon
becomes vesicular and renders
the bronchial respiration inaudible
Suspiration. There are no
physical signs by which we
can judge absolutely of the
existence of this stage. We
are assisted to some extent if
a ronica is formed which gives
rise to a gurgling sound.
notwithstanding we do not hesitate
from the evidence furnished
by the symptoms, to decide when
this stage exists. Thus while we
could not with surety from

any one symptom or sign declare the presence of Pneumonia. we can if we regard the symptoms and signs respectively as letters. Spell out with more than common accuracy the existance of the disease. (if the letters be properly arranged).

Very often there is central pneumonia and none of the signs are clearly indicative of it. Sometimes the inflammation is seated close to the surface of the lung and we have pueril respiration, which results from the Enlargement of adjacent vesicles

Causes - The causes of this disease are generally regarded as conjectural, Though in my mind there is but little doubt that it is usually due to invaid congestion. The circumstances under which it commonly occurs are so common to the disease as to enable one to say with very little liability to Error. That it is traceable in a very large majority of cases to the Effects of cold and moisture. Else why is the disease confined to such an extent to the winter season?. Again it is occuring in connection with intermittent fever in such a

marked number of cases, would justify us to some measure in attributing it to congestion. Again patients in the majority of cases are conscious of experiencing chills sensations. from some change, at no very long time preceding the attack, or having been imprudent in exposing themselves. It so often follows upon debauches and over-stimulation. when the powers of evolving heat are impaired that we are forced to acknowledge the connection. However apart from this cause cases do occur which we are not able to refer to any vicissitudes or changes of weather

therefore we must believe that there is an inward and inexplicable Tendency to the disease which may be encouraged to development under certain favorable conditions. No period affords immunity from or a noted Tendency to the disease. It is less common with females than males from the fact that they are given to indoor pursuits, moisture combined with cold much Enhances its power to produce the disease. It may be produced traumatically, as by blows upon the chest. or acrid inhalations.

Diagnosis— The symptoms in

many cases are peculiarly
characteristic of the disease.
We could say with much
surety that a patient had
pneumonia if seized with a
chill. followed by fever and
a lancinating pain in the side,
Expectorating the rust colored sputa
with considerable dyspnoea and
increased respiration, also a
circumscribed flush of the cheek
which being excluded, distension
of the alae of the nostrils. These
symptoms taken collectively are
pathognomonic of the the disease,
but as before said some of them
are wanting or obscure, and

other indications for forming a diagnosis are needed. Even though we should be able from the symptoms to determine the presence or absence of the disease, we could not decide positively whether it was advancing or receding, what then is needed that we may know of these important alterations or changes? Physical Signs which have been sufficiently spoken of in treating of the several stages, therefore I will not recapitulate them. It may be distinguished from bronchitis in its forming stage, by the difference in the rales, the one being crepitant

the other sub-crepitant, which is a "moist bubbling sound". The former an inspiratory the latter either an inspiratory or expiratory sound - The signs of Pleurisy are confined sufficiently close to that disease, to prevent its being confounded with Pneumonia: for instance the changeable seat of flatness, varying with the position of the body, whereas in this disease the line of distinction between solidified and sound lung can be well drawn under all circumstances or positions. Phthisis cannot be confounded with this disease. It is by some

believed to afford immunity to
pneumonia. Though I am rather
incredulous of any connection.
In Emphysema, on percussion we
have induce resonance, which
enables us to distinguish these diseases
easily, Dyspnoea is common to both
of them. Asthma and organic
affections of the heart are also
supposed to afford some immunity
to this disease.

Prognosis— The prognosis in an
uncomplicated case is generally
favorable, the tendency being in this
as in most other diseases to recovery,
death very rarely occurs from the
disease if it be, in some rare

cases, it quickly follows from very rapid and extensive interference with the functions, but "ab ovo" they are exceedingly uncommon. The prognosis will be more or less favorable according as the complication is mild or grave. In malarious districts of country, intermittent fever is most always a concomitant and a happy termination of the disease may be looked for, unless blood-letting be resorted to. Occurring in the course of an attack of any of the continued fevers, erysipelas, and the like, the fatality will be proportionate to the severity of the complication, and in according

with its grade of typhoid apart
from pneumonia.
Hæmoptysis in connection with
pericarditis or pleurisy with
extensive inundation, or with
the prognosis will be very doubt-
ful, equally as in cases where
there is an organic affection
of the heart.
In which suppose many deaths
to be due to the formation of fibrinous
coagula in the right cavities of
the heart. He says that the con-
ditions favorable to its production
are extensive solidification, as
where a whole lung is hepatized
at once; or in double pneumonia,

Its occurrence may be inferred
when there is a sudden change
for the worst in the patient's
condition, not warranted by
any extension of the inflammation,
nor supposed to depend upon
any super-added disease.
The pulse becomes very frequent,
small, and irregular; respiration
much embarrassed; the expression
haggard and anxious; and
perhaps an abnormal heart
sound. This complication is
surely fatal. I suppose it is
most likely to occur where valvular
lesions pre-existed, the concretions
upon the valves serving as a

nucleus for further deposit.
If suppuration follows upon
the ligation, we anticipate an
unhappy result, though the case
will not necessarily end fatally.
The formation of an abscess is
attended with much danger,
and if pus once results the
tendency is most always to a
fatal termination,
In an uncomplicated case
the danger is to be estimated
by the extent of the inflammation,
when the disease ends in death
it is generally by asthenia, and
the typhoid condition usually ensues
developed. The duration of the

disease is from nine to twenty one days, but liable to great variations.

Treatment—

I come now to consider the object & all our study and investigation. How to treat of this part of the subject is extremely perplexing, for my experience is so limited that were I to advance any mode of treatment dogmatically, I could very justly be said to be immodest and full of my own vain but empty self. Again the thought struck me that I should recount the several modes of treatment that have been followed, but were I to do this it would require a

volume to contain the very details
detailed in this, I have been
induced to compare the treatment
adopted by more modern authors
and deduce therefrom what seems
to me rational and proper.
The results of the different courses
of treatment, I must say, have had
a determining influence upon
me. I more fully endorse or accept
that followed by Bennett than
any that has been given to the
public yet, since his statistics
show a greater number of recoveries
from the bloodletting I deprecate
to be of advantage as an anti-
phlogistic in the least. Though

I am unwilling to discard its use wholly. For I think in certain conditions of the disease its good effects are obvious, as a palliative. I do not favor copious depletion by the lancet, because it has a depletive effect upon the blood, diminishes its red corpuscles, and increases the amount of fibrin: a condition that is to be studiously avoided, since the mode of death is usually by asthenia. And as the powers of life are already lowered by disease, such a course would seem like adding fuel to a fire to quench it. Thus we see that it reduces the powers

of the system and renders it unable to cope with the disease. There is a condition, when bloodletting would be highly advantageous: when the lung is extensively impaired and the quantity of blood excessive, considering the impaired function of haematosis then would bleeding just from a vein be of much service by reducing the quantity of blood sent to the right cavities of the heart. We can judge of this condition by labored and irregular action of the heart with a strong impulse, while the radial pulse is small, or not so

full as the forcible action of the heart would justify.
In the beginning of the disease if nothing contra-indicated I would give a saline cathartic with the double view of clearing out the alimentary canal and diminishing the viscidity of the blood. I would give as much drink and other simple but nutritive food as the patient could digest with a plentiful supply of water to diminish the heat of body & favor the removal of excreta from the system such as the urates &c. also. To accomplish this end. I would administer

diuretics occasionally,
Diaphoretics would be the source
from which I would expect most
good, and I would be guided
by the condition of the pulse in
their use, If the pulse was small
very frequent & feeble I would
think them strongly indicated,
If any restlessness and insuf
good sleep I would give opiates,
such as Dovers Powders, Any
complications would require
variation.
Cupping [illegible] the seat of inflam-
mation is highly useful. It
allays pain, [illegible]
[illegible], stimulating Evacuations

are also much lauded, but
fomentations and the like.
After a blister will be very
prompt & good. It would
be an endless labor, & undertaken,
to attempt to give [illegible]
for every indication that might
[illegible] in this disease. In
I will simply say that my
course would be expectant.

G. H. Bond

An Inaugural Dissertation

on

Diphtheria

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Diphtheria.

Of all the diseases which have lately come under the notice of the profession generally, none have attracted more attention than those classed under the head of diphtheritic. Nor is this to be wondered at, when we consider the terrible mortality and distressing nature of the symptoms, that often attend epidemics of this disease. Diphtheria is a synonyme of the word Diphtheritis which is derived from the Latin word Diphthera (meaning the prepared skin of an animal) The word Diphtherite was first used by Mr. Bretonneau in a treatise on the subject which appeared in 1826, in which was given an account of

the epidemic of malignant sore throat, prevailing at Tours, and in its neighbourhood in 1818, and again in 1825 and 1826.

History. This affection can be traced back to a period almost contemporary with Homer. Whether this be true or not ten centuries later, distinct accounts of a form of malignant sore throat, may be found in the writings of Aretaeus, under the name of the Egyptian or Syrian ulcer. This prevailed in the two countries especially among children. Ulceration of the throat, fetid breath, and sometimes great dyspnoea were its chief symptoms. Advancing to times of a later date, we find accounts of epidemics of malignant sore throat occurring in Holland, Spain, and in various other parts of

the world. In England some of these epidem-ics proved very fatal especially one which o-ccurred in 1748, which was described by Fothe-rgill and which was beyond doubt alone by al-lied to Scarlatina. There have also been various epidemics of malignant sore throat in France at different periods, many of these occurr-ed in Paris in the hospitals there. In 1826 the treatise of M. Bretonneau appeared, and although he differs in several points from practitioners of the present day with us and to diphtheria, yet this may truly be considered the first connected and practical research upon the subject of this disease. With regard to our own country Dr Douglass of Boston first published an account of sore throat distemper as it

occurred in 1736. The epidemic he describes was one of great fatality &c. Of late years diphtheria has attracted much attention from the fact of its prevailing in an epidemic and very fatal form in this country, especially in California, accounts of which have been published by various practitioners of that State. It has occurred in other parts of the country at different times assuming a character of more or less violence, and has been described by various observers.

Symptoms. The disease begins with some redness of the fauces and a sense of uneasiness in the throat attends as in common angina, but usually in a less degree. This condition lasts but for a short time, before the exudation commences to appear.

Sometimes the disease sets in very gradually with feelings of depression and muscular debility, headache, nausea, slight diarrhoea, chilliness and drowsiness, while before the throat is actually sore a sense of stiffness in the neck is complained of. In an article written by Mc. Mc. Fantley and Rilliet, diphtheria is described as follows. Diphtheria commonly sets in with slight febrile symptoms, the strength and appetite not being sensibly affected. The patient complains of slight pain in the throat, no change in deglutition. Very shortly after the first attack, a slight swelling of the tonsils is observed, and frequently a little exudation of false membrane. Soon whitish or yellowish white spots

are seen on the tonsils, which extend to the ar-
cus, ax, velum palati; when they often loose the
white color and become of a dirty-gray, giving
out an extremely fetid odor; an abundance
of saliva is at the same time running from
the corners of the mouth. The glands of the
neck gradually become engarged. At the end
of a certain time, according as the membrane
is more or less adherent, it commences to
separate and is thrown off. Or remaining
adherent to the mucous surfaces it gradually
grows thinner and then disappears. If the
disease terminates favorably there only re-
mains a slight redness about the throat.
In fatal cases, the inflammation extends
from the fauces to the air passages, thus
giving rise to croup &c."

Dr. Copeland in his Dictionary defines Asphthina as follows - "Soreness, pain, and heat in the throat, often increases on deglutition; redness, with an exudation of a buffy or grey lymph in spots, at an early stage, commencing either in the fauces, on the tonsils, or pharynx, and quickly extending to these, and often also to the larynx and oesophagus; the exudation becoming more continuous and firm, accompanied with fever and appearing generally either Epidemically or endemically." Judging from the various Epidemics which have prevailed, in different places, there seems to be two forms of this disease, a mild and a severe.
The mild is usually preceded by more or less fever, loss of appetite and dysphagia,

with some uneasiness about the fauces." The tongue presents a thick whitish coat. At the beginning of the affection the velum palati, uvula, and pharynx are of a bright red color. The tonsils are slightly swollen and of the same red hue. In a short time generally from twelve to thirty six hours after the attack, upon one, sometimes upon both tonsils, are seen distinct white patches of exudation of false membrane. These soon extend over the uvula and posterior walls of the pharynx. The exudation cannot be easily removed since it adheres more or less firmly to the adjacent mucous surface. In a few cases the exudation remains confined to the tonsils and neither grows black nor putrifies.

The mucous membrane around is swollen and projecting. The parotid and submaxillary glands are not much swollen. The duration of the mild form of the disease is from six to nine or ten days. In the severe form, the disease commences with intense headache, hot pungent skin, rapid feeble pulse. There is great dysphagia and the respiration is hurried. The tongue is covered with a thick, dirty brownish coat. On examination of the throat the tonsils are found immensely swollen and covered with a thick and colored membrane which has extended to the uvula and posterior walls of the pharynx, and sometimes gives out a foetid odor. Unless relieved all the symptoms increase

in severity - the respiration becomes much oppressed, there is a barking cough, and a change in the voice, which becomes harsh and indistinct; the deglutition becomes so painful that children refuse to swallow even liquids; the saliva dribbles from the corners of the mouth and an acrid discharge flows from the nares. The glands of the neck are tender and swollen. The patient is at times extremely restless and tossing about, at other times sinking into a low comatose condition. These cases when they prove fatal terminate either from prostration of the vital powers or from extension of the diphtheritic membrane into the air passages. With regard to the exudation

when examined by the naked eye it has the appearance of a fibro-plastic membrane. It presents a whiter color when situated in the larynx, than in the fauces, it resembles very much the membrane thrown out in true croup, though it is softer and often seethed by the various matter that exudes from beneath and around it." Dr Tanner mentions two varieties of diphtheritic exudation, one of which is very tough and elastic and as much as the eighth of an inch in thickness, resembling wash leather, the other grey creamy and pulpy. The former consisting of such fibres as we see in the buffy coat of the blood coagula - the latter, pus globules corpuscles of Lebert, and others smaller and larger granular corpuscles, epithelium and oleo-proteïn corpuscles.

Dr Gairner teaches that these two forms of concretion are severally related, the latter with the asthenic, the former with the so called inflammatory type of the disease." Dr Tanner gives the following microscopical description of the exudation in his practice of medicine. "If the exudation is examined microscopically it will be found to consist of molecular particles, epithelium, pus cells, and blood corpuscles. Fibrillae are very rarely seen. The oidium albicans may occasionally be detected, but the occurence of this fungus is only exceptional, and when the membrane has begun to undergo an acrid putrefaction. So also leptothrix buccalis may be discovered, but it is often found in the buccal mucous of healthy

persons.

Pathology. Diphtheria is a Specific blood disease, which runs a rapid course. This is proved from the fact, that in most cases death results rather from the action of the poison upon the system, than from obstruction of the larynx, though cases do often occur in which patients die from the mechanical obstruction to deglutition and respiration, when they might otherwise have recovered from the effect of the poison.

Another proof of diphtheria being a blood disease is the diphtheritic inflammation of wounds. When a wound is attacked with this inflammation it becomes painful, discolored and foetid and a discolored serum flows forth from it in

abundance, and a gray soft coating soon covers it with a layer; the edges swell and become painful and of a violet color. The wound often remains stationary for months; sometimes it spreads, and then an erysipelatous blush is seen around it; then it is said that pustules form, become confluent, burst, and leave apparent a diphtheritic patch, which spreads from the head, even to the loins. A gentleman of my acquaintance in Frederick Md had several very interesting cases of this inflammation in his practice. One patient had diphtheritic inflammation of the breast; it attacked another in blistered surface on the neck; but the most remarkable case was that of a child who had

varicella at the same time it had diphtheria, and strange to say, every vesicle on the child's body became the seat of this inflammation. The cutaneous diphtheria has been much more prevalent in some epidemics than in others; it is said to have frequently occurred in the epidemics in France, - Leech bites, blistered surfaces, excoriations of any part, ravous wounds may become the seat of it. It has been proved beyond a doubt that the diphtheritic affections of the skin are identical with those which are seated in the mucous membrane of the fauces and larynx. In many cases symptoms of low typhoid are present and these cases often terminate fatally or recover after a

long and tedious illness. So the external diphtheritic affections are in no manner less formidable than the internal or faucial variety. A very curious fact has been observed by some writers with regard to the location of the diphtheritic exudation. Although it is found in the mouth, the fauces, the nasal fossae, on the tongue, in the pharynx, the larynx, trachea, and even in the bronchial tubes, on the conjunctiva, in the vulva, the anus and upon the skin, it is not found upon those parts removed from the contact of the air. Thus true diphtheritic inflammation is never found in the oesophagus; whilst the exudation of certain apththeous affections shows a great tendency to extend into

this tube and not into the air passages. The atmosphere therefore would seem to promote the extension of this inflammation. Besides the spreading inflammation of the fauces and respiratory tract, with the exudation of lymph, the lymphatic glands of the neck often swell and become tender, especially in scrofulous persons. When cases recover nervous affections of various kinds sometimes supervene, such as otalgia, amaurosis, headache, ophthalmia. Paralysis of various muscles as those of the tongue, fauces, pharynx, neck trunk, and extremities. These nervous affections follow often mild as well as severe attacks, and sometimes there is a short period of convalescence before they show themselves. During the year 1860 there occurred 210 cases of diphtheria

at the Paris Hospital des Enfans, and paralytic symptoms followed in 31 of them. The proportion was nearly equal, as much as several were removed and others died before the time that these paralytic symptoms usually take place sometimes. Even the proportion is considered to be as many as one in seven, three or four cases. It is also remarkable that these paralytic symptoms occur as rare in the affections of children as they are common in diphtheria. Thus in the same hospital, and in the same year, among 61 cases of angina tonsillaris, 12 of hydrocephalus, 33 of rubeola, 12 of scarlatina, 4 of variola, 24 of pneumonia, not one instance of secondary paralysis occurred. The prognosis, of these secondary paralytic affections, is favorable, since they, for the most part, disappear under proper treatment.

Causes. Some writers maintain that moist countries and seasons are most productive of this disease. But in the late epidemics both in France and England, many instances are recorded where it prevailed most extensively in very dry and dry situations; this is also proved in our own country, particularly in California, where the climate is remarkable for its dryness. It has been known to prevail in the seasons in the hottest weather of Aug-days and in the severest cold of Winter. Diphtheria most frequently appears in ill ventilated houses, where the inhabitants are overcrowded by disease and oppressed with poverty, and common where the disease seems to be infectious. Though it does not appear that the infection may be conveyed by the clothes or persons of those who visit

a re-furnished the patients. Dr. Fulton now maintained that inoculation of diphtheria possessed a special virulence, and that the disease could not only be propagated by the application of the secretion, from an affected surface to a sound part, after the manner of small-pox; but that, like syphilis, it cannot be communicated in any other way. He gives several cases and similar ones have been cited by others in proof of the theory of auto-inoculation. But Dr. Thurnam failed in his attempts to inoculate himself and his students with diphtheritic matter. Dr. Hanbury of London also failed in similar experiments upon various animals. Prof. Wood remarks, that the cases of ordinary angina will give no

to the pseudo membranous variety in those pre-disposed to it. What constitutes this predisposition is not known, though a singular parturient state of the blood. The above facts must come to the conclusion that the disease is contagious under some circumstances, especially in its malignant and gangrenous forms.

Diagnosis. Diphtheria might be confounded with common angina, ulcerated gangrenous or malignant sore throat, pseudo-membranous croup, and scarlatina. Common angina is readily distinguished from it by the exudation in the fauces and from the fact that the constitution seldom sympathizes with the local affection, and that when there is fever it is generally of the sthenic or inflammatory type. With regard to the gangrenous

sore throat, it is certain that it does sometimes
appear at the same time with diphtheria;
though it was one of the points upon which
Dr. Bretonneau particularly insisted, that
there was no relation or relative between diph-
theria and gangrene of the fauces, and he seems
to be supported in these views by historical tes-
timony, especially of some of the epidemics
of the last century. But in some of the late
French epidemics researches were conducted
with a special view to the solution of this
point, and in all cases of a malignant
character gangrene appeared, not as a mere
accident, but as an associated termination.
In the epidemics which occurred in Paris
in 1841 gangrenous sore throat occurred at
the same time with cases, which in every

as fact presented the symptoms of true diphtheria. The local affection in neither case was preceded by any constitutional symptoms. The cases presented first appearances purely diphtheritic in all cases. In those cases which in their progress took on the gangrenous state, the exudation became friable and separated from the mucous surfaces. The constitutional symptoms presented in both were those which usually accompany gangrene. Then for, in making out our diagnosis we must remember that although gangrenous sore throat may exist without diphtheria, yet it is by no means an common and the two affections combined. With regard to cause Dr. Pennington says "that diphtheria also

includes croup. He remarks "Croup is but the severe degree of malignant angina" It is evident from this that his idea of croup is, gen: from most writers on the subject. Dr Home, whom it is said first introduced the word croup into medical literature in 1765, first drew attention to the fact, that the formation of a false membrane in the bronchia and larynx is essential to the disease and constitutes the chief source of danger, and his views of croup were not only received in England but by all Europe and also by the writings of Heyne, Cullen, and others. The opinion of these writers with regard to croup is. "that it is an acute inflammation of the mucous membrane of the air passages, distinguished from others by the rapidity of its progress, by the existence

of a muscular constriction in the larynx, and by the fact that it primarily attacks children under ten years of age. They regard both and mistake as to their causes, and they deny that there has ever been known of the seasons and climates in which it is most prevalent, and they also maintain that croup is apt to be sporadic, not epidemic."

Dr Watson in his lectures, speaking of croup and diphtheria, says:- "Some analogy with that disease (croup) it certainly has, but the points of difference are strong and more essential. It resembles croup in as much as it leads to the production of an adventitious membrane upon a mucous surface. It differs from it in the position of that membrane which is seldom found in the trachea".

From a letter published in the Lancet which was obliged by Dr Hawkins we find the following remarks. "The great distinctive mark between diphtheria and croup, professedly so called, is to be found in the localities affected. In both the main feature is the presence of an exudation, but in one it commences in the larynx and trachea, and does not necessarily affect the deep parts above the glottis at all"

"Now one the difference between croup and diphtheria, besides the situation of the exudation is, that the one (diphtheria) gradually attacks those suffering with ill health and unprotected by favorable hygienic conditions, is obtained in its commencement. The other attacks persons in perfect health, is inflammatory in its character, acute in its course,

and for the most part proves amenable to antiphlogistic treatment. The one form is incapable of being diffused by contagion and rarely becomes, in the usual acceptation of the word, epidemic. The other attacks adults as well as children, is propagated and often occurs in the epidemic form. Sometimes the diagnostic difficulties are very much increased by the presence of both affections at once time. With regard to Scarlatina some have thought that diphtheria is scarlatina without the eruption, and they base their idea upon the fact, that in some mild cases of scarlatina, there is now and then an exudation resembling the diphtheritic variety, and also that albuminuria is sometimes present in both cases. It seems to be proved

however, that the diseases are distinct from each other, though there may be some analogy between them. One attack of scarlatina preserves the person from a second one, but it does not protect him from an attack of diphtheria. A person may have more than one attack of diphtheria and the second may be much worse than the first; while also is not uncommon. With regard to albuminuria it often occurs in the first or second day after an attack of diphtheria; but it only occurs in the convalescence of scarlatina. And the sequelae are entirely different, for while there are no formidable dropsical symptoms in the convalescence of diphtheria, which so often take place during that of scarlatina; neither are there any peculiar loss of nervous power and temporary

muscular debility or paralysis in scarlatina.

Prognosis. Diphtheria must always be looked upon as a grave and serious disease. Death may result in a few hours, from the effects of the poison upon the system; or the patient may linger on for days, and at length be overcome by the severity of the local affection or from the occurrence of some complication. Pneumonia should always be looked upon as an alarming symptom, though cases do often recover in which the crisis has been alarming. Suppression of urine, epistaxis, a very rapid pulse, a very slow pulse, delirium and dyspnoea must all be looked upon as alarming symptoms. The duration of the disease is said to be from three to four days. It must be remembered that the

is no definite relation between the primary symptoms of depletion and those of the sequelae, and therefore a favorable or unfavorable prognosis should not be made from the primary symptoms alone.

Treatment. It should be said that there is no specific for this disease. It is the opinion of practitioners of the present day that remedies of a symptomatic kind are those which are most likely to affect most good. Dr. Bretonneau recommended, in his memoir on the subject, an activity of treatment which by no means coincides with the opinions of practitioners of the present day. Bleeding both local and general, blisters, certain local applications to the pharynx, so fuel nourishment, formed the treatment in all cases, in

foot mercury seems to have been the chief anchor of most of the medical men of those times. In the first place attention should be paid to certain hygienic rules, the most perfect cleanliness of person and surroundings, and free and uninterrupted ventilation should be insisted upon if necessary. When the disease attacks a family, the well persons should be sent away, or at any rate kept out of the room in which the infected person is confined. The sick person should also have his own cup, spoon, towels &c &c. It has been recommended that the patient be clothed in a flannel gown, and there is no doubt that this simple precaution has saved the life of many a patient. In the very early stages of the disease if there is much heat and uneasy-

-ment about the throat, it is said that cold wet compresses sometimes give relief. As the disease progresses, warm fomentations and emollient applications may generally be substituted. Ligatures are to be avoided from their liability to tetter on a slough or diphtheritic appearance. Since the disease is purely of an asthenic character, neither leeches or local bleeding are admissible except in rare cases, it is said that the punctures sometimes tetter on a slough appearance. Some practitioners commend the use of cupping and this seems to be advisable, particularly when there is a tendency to cerebral symptoms. Purging should be avoided and it seems to be much more plausible to open the bowels with castor oil or a simple enema, than to use calomel and

jalop. There are cases of diphtheria so mild that the local application alone to the fauces may be sufficient; but as a general rule, the disease demands a tonic and supporting treatment. In fatal cases, death takes place from prostration, unless termination be by asphyxia. Stimulants and nourishments should be commenced with early and persisted in. The amount must of course be regulated by circumstances. It is better to give them in divided doses at regular and frequent intervals; if they are rejected by the stomach they should be given by enemata. Enemata should be used when children become very much frightened or distressed by painful attempts to swallow and reject every thing that may be offered them.

Prof. McClintock of the University of Maryland, mentioned in his lecture in Hospital Notes, the case of his little boy who was a sufferer from this terrible disease, that although it was impossible for him to swallow liquids, since they would immediately regurgitate through the nares, able he could swallow milk, some fruit, pieces of bread soaked in tea but toast.
Injections of beef tea, quinine, and brandy are spoken of very highly. Quinine, tinct. ferri. chloridi, and chlorate of potass, are the best internal remedies, each has its advocates. The tinct of chloride of iron seems more to be prescribed by most practitioners, from its great usefulness, in the more extreme cases of the disease. The dose is from 10-20 drops every three or four hours.

Iron is an internal remedy, very frequently given, which consists of tincture of sesquichloride of iron with chlorate of potass, chloric ether, and hydrochloric acid, full doses being given according to the age of the patient, and at the same time free use should be made of beef tea, coffee, eggs, brandy, milk punches. Quinine may be given in mixture without or with dilute hydrochloric acid or in the form of a pill, the dose, of course, must regulated by circumstances. Chlorate of potass, when it is preferred should be given in doses of from 5 to 20 grains according to circumstances, in a bitter infusion with from five to ten drops of dilute hydrochloric acid. With regard to the local treatment there seems to be some diversity of opinion. Some writers maintain that the disease is

a constitutional one, and that therefore local applications can be of little avail, but this is, evidently, carrying things to an extreme. If for the same general we should not use local applications to alter constitutional diseases as syphilis, scrofula &c; but certainly it is that the human applications used by some practitioners should be done away with. Dr Cheyne how often has one of these local applications says. "I am persuaded that much mischief has been produced by their indiscriminate use, as proved by the frequent termination of the exudation with pneumonia, or diseased membranes, in the application of nitrate of silver, or of other strong caustic solutions. Observing that the removal of the exudation, and the application of remedies

to the subjacent parts, will be destroyed the duration, more sensibly modified the progress of the complaint, but that the tubercular membrane never failed to be removed in a few hours, & many times discontinued these morbid effusions to the texture and already established mucous membrane.

When the case is seen two or three hours from its commencement, it is said that relief may sometimes be afforded by the inhalation of acetic or prussic acid or fumes of vinegar to the point of boiling water. When the peculiar pellicle begins to show itself the fauces should be gently painted with a linctus of tobacco & honey, or with turpentine. Hydrocyanic acid has also been very highly spoken of as a topical application, in the cases of children

honey is a very pleasant addition to it. It is in many cases a combination of chloride of potass and hydrochloric acid with the lime of the chloride of lime has been very highly recommended.

The chloride of soda has been very highly spoken of as a very useful gargle; it has the double advantage of correcting the fetor of the breath, and of the secretions of the mouth; it is a solution of the chloride of soda, in the proportion of a drachm to six ounces. Many other applications have been recommended and have been used with various success. Among them may be mentioned strong solutions of chloride of sodium, either by itself or in combination with vinegar, glycerine of tannin, camphorated &c. Chloride of lime powder &c. Nitrate of silver is beyond a doubt,

when properly and carefully used, the most
certain of all topical applications. Used
in solution, the diseased surface should be
quickly and thoroughly brushed over by
means of a probang or brush. The strength
of the solution should be from 30 to 60 grains
to the ounce of water according to circumstances.
It is better not to use it in the solid or stick form
as it sometimes breaks off. When in spite
of all means employed, the disease progresses
towards, and the larynx and trachea are
invaded by the exudation, giving rise to symp-
toms of imminent danger, we must then think
of the important operation of tracheotomy.
There have been many objections urged against
this operation, such as the small amount of
success, the difficulty of performing it

operation, the tendency to the production of bronchitis &c; but notwithstanding all this, there is no doubt, that there are many cases in which the operation is perfectly justifiable, and of late years has the patient from the very jaws of death. There are some things however that must be attended to necessary for the success of the operation. As to the proper time it is of the utmost importance not to operate until the patient becomes too much prostrated by the disease; neither, of course, should the operation be resorted to too early. The atmosphere of the room in which the patient is confined should be kept moist, this may easily be accomplished by filling the room with steam from simple apparatus. The temperature of the room should also be kept at a fixed point.

Some competent person should always be at hand in case of emergency, to clean out and insert the cannula &c. A cannula of large size seems to be the best. It is of importance that the medical treatment should be kept up and attention should also be paid to the fire for him for removing the tube.

Inaugural Dissertation

on

Gun Shot Wounds

Submitted to the Examination

of the

Honorable Regents & Faculty

of

Physic & the

University of Maryland

For the degree of

Doctor of Medicine

By Philip Slaughter

of Virginia

in 1866-67

A limited experience gained while a Private in the Army of the Confederate States has suggested to me the propriety of selecting for my Thesis, the subject of Gun-Shot wounds.

Although surrounded by opportunities for acquiring a fund of useful information on this important branch of Surgery, the want of previous preparation and study in consequence of entering the Military service at an early age, prevented my availing myself as I might otherwise have done of these advantages.

Conscious of my inexperience and of my inability to do justice to so important a

subject, I submit to your kind consideration the small results of my study and observations.

Gun-shot wounds.

I now propose to speak of gun-shot wounds as they are seen both in military and Civil practice, which do not differ materially except in regard to the instruments used in their infliction. Those in the army being larger and more destructive to life than those commonly seen in the other, those last being generally the result of accident or of attempts at suicide.

Gun-shot wounds include all those injuries caused by the discharge or bursting

of firearms, but those generally met with in Military practice are inflicted by musket and cannon-shot, and the explosion of shells. They partake of the nature of contused and lacerated wounds, and are attended with more or less danger in proportion to the number and importance of the organs wounded, and the extent of the injury received. They are distinguished from other contused and lacerated wounds by reason of the causes that produce them - the appearance they present, the local and general phenomena and special complication that attend them - the results which follow

them - and the conditions under which they are received.

The general character presented by Gunshot wounds inflicted by a cannon ball at full speed and in a direct line which under such circumstances will be the course pursued by it. Every thing encountered by it will be carried before it and if the part struck be the head, chest or abdomen, the wound will present an opening the size of the missile and the contents will be scattered, which causes life to be at once extinguished. If the force of the ball be reduced - a serious wound may still be inflicted by

it, gliding around instead of passing directly through the vessels, fracture of bone, or serious injury of deep and important organs without destruction of the skin at the point where the extremity is visible to be carried away, leaving a wound which heals as a contused wound, and not by the adhesive union with edges of incision and integument, leaving a scar which becomes little different in appearance or vitality, from the surrounding tissue. Fragments of bone among them, and fragments of the shaft, which had splintered for a short distance of

In these cases a mere chip, such as the cylindrical specimen under consideration, is sufficient for the retention and restoration of such fossils and comminution of stone, without carrying away the fossil or damaging it.

When fragments of shell fragments, the valves of embryos is much smaller than the fragment from the nucleus into which it has to be fixed, sufficient to destroy the vitality and constructility of the fossil but not through which it is to be.

Small specimens

the muscle and cuticle
below punctured with
more or less distinct hyperæmia of the skin, but
more usually the appearance
corresponding to the size
and velocity of the projectile
which produced it. If
the wound is inflicted
by a rifle ball there
will be found on the surface, as
a rule, in the case of
suicidal attempts, the
appearance of the wound
is that of a round hole
with inverted edges,
and a dark discoloration
corresponding to the
powder with which
the barrel of the
weapon was charged.
In such
cases a wad is sufficient

to produce a decision
and in case a fatal wound
should result such
circumstances should
be proved sufficient
to bring the charge
of murder within
the definition of
manslaughter or
chance medley.
Where a bystander stands
at a greater distance
than will sufficiently
protect him from the
shot, the influence
created by the wound
is different, which is
shewing the cases which
are irregular and to
in the direction in which
the shot was fired.
within a short distance
discolouration from the

[illegible]

front of the body with
a uniform velocity. Sounds
sounds in which
it is difficult or even
impossible in many
instances from the ap-
pearance to distinguish
between the mixed of
entrance and exit,
when such one wishes
is visible. It can
be inferred that the
ball has lodged, but
this is not invariable
it may be that the ball
may traverse the body
or limb and make
its exit at the orifice
at which it enters
or it may glide into
several spaces, and
such spaces cause no
opening of exit, or at

[illegible] may be made
by a single ball touch-
ing different portions
of the body, as in the
[illegible] line with
the cause in which
it touches, or the ball
may be thrown from
a direct line, or that in
which it is passing
[illegible] part
of the body, making
many rebounds which
may be taken for the
entrance of as many
balls.

The appearance of wounds
caused by small
pieces of shell or
balls differ in shape
by coming into contact with stones
or other hard and re-
sistant substances

duration to this entirely
differ from those of
gun shot wounds, causing
more laceration and
contusion, and are
much more liable to be
followed by tetanus
fever is much [illegible]
in previous contact
in which case, there
is much less suffering
than in the contrary.
A gunshot wound
caused by a rifle or
musket ball is attended
by a variable amount
of pain depending
on the extent and
nature of the wound, the
state of the mind and
the condition of the nerves
at the time of its
infliction.

If this be the case we shall be enabled to account for many curious and apparently inexplicable facts connected with the effects of lightning, which at other times, when we compare the sensation experienced at the time of the infliction to the blow with which a ball strikes a target without entering the body is said to be more intense than if the ball had entered. Where a bone is shattered, or a limb carried away or a large cavity laid open, and a violent wound made, pain is not so prominent a symptom as the alarm and shock that follow

The shock is generally in proportion to the extent of the injury. But is never constitutional unless the injury is to the parts in the neighborhood of the heart. The shock is also said to be greater if a wound is struck while in active exercise. When a ball enters the body shock is more readily produced if the wounded part is sensitive. Wounds of vascular organs is instantly fatal. Primary hemorrhage & secondary [illegible] [illegible] under the observation of the surgeon for [illegible]

death rapidly follows before he can recover- but if a small artery is wounded the inner and middle coat contract and retract within their cellular sheath- the artery becomes Tapering Tended, its divided extremity, and hence placed out of circulation- Arteries that could not be tied by the ligature- and under such circumstances hemorrhage is much less liable to occur than if it be tied- as in amputation- it is not unfrequently the case in the human subject- but rarely in the lower animals-

Equipment being produced
as in proportion to the case
where it is used, and the
type used. Calculated Amount
their Force, Size, Shape
and the velocity with
which they are launched.
& Force [illegible] in impact.
Diagnosis should be made
as soon as possible after
the arrival of the Surgeon
as it can then be done
with more satisfactory
to him and with less
suffering to the patient
than if a longer time be
allowed to elapse before
it is attempted. It should
always be borne in mind
to place the patient as
near as possible in the
position in which he was

at the time of the reception
of the orders - as on board
instances the examination
will be more strictly
& attention to this simple
expedient. When application
for permit has been made
in such be presumed that
the vessel has lodged - and
cleared - when made
accordingly - and if such
it cannot otherwise be
visible. But should the
officer be discovered this
would probable that no
is that of conference with
the other to give of the
same kind - both not
withstanding - application
should be made for same
foreign bodies should be
with - which are frequently
carried on by a false

become entangled in the
adhesive parts - while the ball
itself may have passed
each on the other leaving
two elevations which indi-
cate the existence of two
separate balls which
have been received upon
opposite directions. The
examination of the clothing
worn by the patient at
the time he was wounded
will often serve to determine
whether fibres have been
carried into the wound -
and thus valuable time
is often saved to the surgeon
and the patient spared
much suffering. Of all
the instruments in use
for the examination of
wounds the finger
of the surgeon is the best

[illegible] should be removed to [illegible] the surgeon can [illegible] the knife [illegible] the case in the hands of the surgeon. The above remarks apply to wounds of the extremities and to injuries in other parts of the body, as wounds which have entered [illegible] in a manner that [illegible] of the use of a limb and besides the attention of the surgeon should be directed to matters of immediate importance as [illegible] hemorrhage &c.

If [illegible] in the presence of a [illegible] or other foreign substance in the [illegible] it should be removed if practicable if [illegible] [illegible] the wound [illegible]

it may [illegible] extended
through it, by means of some
one of the [illegible] and
it [illegible] not in use for
light purposes, but if a
[illegible] caution should
be used [illegible]
and [illegible] right part
in its [illegible]. Should
the [illegible] wire [illegible]
part side of the line
a counter opening should
be made sufficient to
admit of its ready extraction,
and all the same time care
should be used to secure
it in the most workmanlike
manner possible to effect that
end.

The general indications for
treatment in [illegible]
wounds are [illegible] and
simple. If [illegible]

[illegible] from the wounding
of a large artery it should
be carefully watched, the first
and most careful attention
from the surgeon and should
it be unsuccessful, it would
then remain for patient
safety or life to [illegible]
until [illegible] second [illegible]
of [illegible] [illegible].
Keep room [illegible] Indian
Remove the wound, make
the patient as comfortable
as possible, place the [illegible]
tient in a condition to [illegible]
more relaxation in the
muscles - wounded and [illegible]
tak it [illegible] from all
[illegible] [illegible]. If there
exists, a want of encouragement
from the surgeon, patient
with a little wine brandy,
or [illegible] [illegible] [illegible]

If the wound be a large one and it be desirable to use cold applications for the purpose of checking inflammation such cloths may be applied, as well as to be frequently changed or a stream of water should be allowed to fall continually on them to prevent their becoming hot and warm. In the choice between the use of cold and warm applications the best rule to be governed by is the sensation of the patient. When suppuration takes place, warm water must be resorted to for the purpose of promoting the separation of dead from living parts or sinuses.

If the wound be a bruise,

syringe may be practised for the purpose of washing out pus and foreign substances that have accumulated in the interior of the wound.

Wash frequently with a solution of Carbolic Acid & discharge is often arrested.

Cloths dipped in creosote and water or some disinfectant liquid will exclude the accumulation of flies & other insects, with disagreeable odours that may arise.

In the position of soldiers the foot in position splints & adhesive plaster or sutures are necessary. Wash limb after each dressing & maintain splints or a bandage at the same time carefully covering all unnecessary

degree of pressure weight and warmth is often useful. The constitutional treatment should consist of good hygienic regulations the avoidance of all irregularities of habit with proper attention to the excretory functions. The diet should be nutritious, but not stimulating - together with a plentiful supply of fresh air.

Jno. P. Haughton.

AN

Inaugural Dissertation

ON

Digestion

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

S. Frank Tyrrell

Of

Frederick Maryland

Session of 1867

Digestion

Digestion is that process by which food is reduced to a form in which it can be absorbed from the Intestinal canal and taken up by the bloodvessels.

All food taken into (into) the mouth is almost invariably solid, even those substances which are naturally fluid such as milk the white of egg and others of a similar character, are generally solidified by the process of cooking preparatory to entering the stomach. All food therefore requires to undergo a procis of digestion before it

can be absorbed.

When it is received into the canal running from the mouth to the anus (known as the Alimentary canal) it comes in contact with certain digesting fluids which serve to dissolve it. These fluids are secreted by different internal organs of the body, and are also different from each other, each fluid calculated to act upon the different kind of food thereby preparing it for absorption. That portion which is absorbed by the vessels consists of fluids. While the remainder

retaining a firmer consistency
is discharged from the intestine
under the form of "Faces" the
process of digestion to a consider-
able degree is quite complicated.
The "Alimentary canal" being
divided into different
compartments, each communica-
ting with the other by
narrow orifices. At its comm-
encement we find the cavity
of the mouth, then passing
on we find the Pharynx
and Oesophagus the latter
communicating with the
Stomach. Then we reach the
Small Intestines. which owing

to the varying structure of its mucous membranes has received the name Duodenum Jejunum and Ileum and finally we arrive at the Large Intestine which terminates at the lower extremity the Anus. The muscular coat of the Alimentary canal is composed of a double layer of longitudinal and transverse fibres, which by their alternate contractions and relaxations convey the food from the mouth through the Alimentary canal to

the Anus. In its passage
through the canal it
meets with no less than
five different digestive
fluids. First in the cavity
of the mouth — the Saliva —
Second the Gastric Juice
in the Stomach Third the
bile. Fourth the Pancreat-
ic Juice. fifth and Lastly
the Intestinal Juice.
The most important phenom-
-ena in modern researches
on digestion is that different
elements of food are digested
in different parts of the
Alimentary canal by the

agency of different digestive fluids.

We will now attempt a careful but succinct examination of these fluids distinctly and separately, however commencing with "mastication" On the first division of the Alimentary canal "namely" the mouth. The food undergoes two different operations - mastication and insalivation. Mastication consists of trituration of food by the teeth which is absolutely necessary

in order that the digestive fluids may perform the more readily their proper functions. As the action is purely chemical in its nature it will be exerted on more promptly than on a solid form.

By being well masticated it offers a much larger surface to the contact of the fluid thereby rendering it the more easily to be decomposed. For if it was taken into the stomach in a solid form the digestive fluid would be utterly

unable to perform their perfect functions or decompose the food thereby causing all diseases that can be brought on by imperfect digestion which are to numerous to pretend to mention here, The Anaconda for instance has been known to remain for days in a stupid condition after swallowing large quantities of food in a solid form. The digestive fluids being unable to act upon it the not being previously masticated. We can easily deduce from the above

statement the great impor-
-tance to the digestive proces
of a preliminary mastication
At the same time, the food
is masticated it is mixed
with the first digestive fluid
viz: the Saliva. The Saliva is
not a simple fluid but is
composed of four distinct
fluids, which differ from each
other in their physical and
chemical properties. The Saliva
performs a double function
viz: that of aiding in digest-
ing the food as well as to
serve to lubricate and assist
it in its passage down

the oesophagus. food that is hard and dry like crackers for instance cannot be swallowed with readiness unless moistened by some fluid. Consequently if the saliva was prevented from entering the mouth it would not only render deglutition difficult and laborious for dry food. but even that of a tolerably moist consistency such as fresh meat &c. After undergoing a thorough mastication and insalivation in the mouth it is prepared for its entrance into the stomach

and is aided in its passage by the muscular contractions of the Oesophagus,
That part of digestion which takes place in the Stomach has been regarded as one of the most important of the whole process. It has been attributed to a digestive fluid secreted by the mucous membrane which penetrates the food and reduces it to a fluid form. This process however is regarded as a Chemical one. And it is thought that all substances taken

in the Alimentary canal are
capable of being dissolved
by the gastric Juice, The
Gastric Juice like the
Saliva is secreted in consid-
erable quantity only under the
Stimulus of Food.
It is thought to be entirely
absent during the intervals
of digestion. Another
important action which
takes place in the
Stomach besides the Secre-
tion of the Gastric Juice,
is the Peristaltic movement
of that organ, this
movement is accomplished

by the alternate contraction and relaxation of the circular and longitudinal fibres of its muscular coat. The time required for digestion in man varies from one to five hours. It however depends how well the food is masticated, as well as upon what the individual eats as some things are digested much sooner than others. The secretions of the Gastric Juice is much influenced by the nervous conditions of man.

Every one is aware how

readily any mental disturbance. Such as anxiety anger &c. will take away the appetite and interfere with digestion It is often noticed. That when any annoyance or hurry occurs soon after the food has been taken into the stomach digestive process is not only apt to be suspended for a few hours but it may last the entire day.

In order therefore that digestion may go on properly it is necessary that food should be taken

only when the appetite demands it. It should also be thoroughly masticated at the commencement and both mind and body, particularly during the commencement of the process be free from any disagreeable excitement; The next comes Duodenal Juices. From the Stomach those portion of the food which have not already undergone digestion, pass into the third division of the Alimentary Canal, viz: the Small Intestine, here they meet with the

mixed Intestinal fluids. which
are acted upon at once and
converted into saccharine sub-
stances. and then rapidly
absorbed. Now for the last
the pancreatic Juice;
The only remaining ingredi-
ents of the food that
requires digestion are the
oleaginous substances. Very
soon after its entrance
into the intestine, the oily
portions of the food loses
its appearance and is
converted into a white opaque
emulsion which is gradually
absorbed. These substances

are then ready to be taken up into the intestines as we have just seen, the secretions are intended to act exclusively upon the food to liquefy it and prepare it at the same time for absorption, But throughout the large intestine the contents of the Alimentary canal exhibit a different appearance, and are distinct in their color, appearance, odor and consistence, This portion of the Intestinal contents are known as excrementitious substance

which finds it way into the intestine by execution and is finally discharged through the anus,

Gentlemen it is true a great deal more could be said upon the subject of digestion but hoping that my remarks may prove sufficiently clear and to the point. I have the honor to subscribe myself Your most obed.t Sert.

AN

Inaugural Dissertation

ON

Rubeola

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

John T. Spalding

Of

St. Marys County Maryland

Session of 1867

Rubeola

This is a disease of minor importance, than many other of the eruptive fevers. It receives its name from the red color of the eruption, however it is commonly known throughout the country as Measles, it is true that this is a disease of no great moment, but should not be overlooked as unimportant by any means, inasmuch it is so common in this country, that we will be frequently called upon to Diagnos such diseases, indeed it is a matter of no little difficulty for the practitioner, to discriminate one eruptive fever from the other,

and this should be done as early as possible, for we are aware that there are other eruptive fevers bearing close resemblance, which are more contagious, and attended with much more serious consequences; so it is a matter of great importance for us to be able to distinguish one eruptive fever from the other, and thus avoid the wide spread of contagion throughout the community at large.

This fever has three different names viz; Rubeola Morbilli, & Measles; I will make use of the former name as it strikes me is the one most applicable,

I will in the first place begin to speak of its anatomical characters, it being most convenient to consider them in describing the symptoms of the disease. Local Symptoms: in this stage it resembles that of an ordinary attack of bad cold, or in other words an attack of Influenza; the peculiarity of the fever which precedes the eruption, that it is very constantly attended with inflammation of the mucous membranes, and this is most commonly of the air passages; there is coryza with frequent sneezing, and

coughing, discharge from the nostrils;
the eyes become vascular intra-
ble, reddened, and presents a
watery appearance; tears may
be seen flowing frequently from
them, great intolerance of light.
Laryngitis is present, denoted by
alterations of the voice; such as
hoarseness, the cough is generally
dry; Symptoms of Bronchitis
are frequently present; thus giving
rise to more or less general
disturbance, sometimes the
Pharynx is the seat of inflam-
-mation, with these various
Local affections, which differ
in various cases; there are

associated more or less lassitude,
followed by shivering, and chilly
sensation; but rarely if ever
ushered in with a marked
chill; these are followed by
heat of skin, acceleration of
the pulse, and there is great
desire for cool drinks, indeed
of an intense thirst, the appetite
becomes impaired; in some
cases there may be vomiting;
there or less pain in the head
and limbs; but these depend
in proportion to the amount of
febrile excitement, they
are less intense, than in the
stage of invasion of Smallpox,

und Scarlettina fevers, in some cases there may be diarrhea, and at the same time vomiting; on the other hand, constipation is often met with; these symptoms are more common to children, and often leads to convulsions, but such instances are not to be considered as very dangerous, and in the third stage False Croup with children, this stage ~~may~~ may last from four to five days, therefore the duration is about two days longer than in Variola, forty-eight hours longer than in Scarlettina fever. However we meet with

cases; in which the duration is
four, five or six, and even longer,
and in others on the contrary
may be, but one or two days.
Stage of Eruption the regular
period for the eruption to make
its appearance; is on about the
fourth day; sometimes it comes
out sooner; frequently the erup-
tion does not come out until
the fifth day, and thus you
may distinguish by the
slow expansion of the rash,
that the disease is not Variola
or Scarlatina, the eruption
when it first can be seen is
very minute red specks,

which in a very short time become large slightly elevated above the general surface of the skin, and this is best marked on the face which is sometimes swollen; these little red spots then become blended together in circular or crescentic forms, The papules are very much alike Those in Variola previous to the recognition of the vesicles, but they are much larger, and feel soft to the touch, also They have somewhat the appearance of flea bites, and if you press your hand on them the redness will disappear for a moment; one of the most

characteristic signs, which Rube-ola, may be known from Variola; the fever does not cease or even abate when the eruption has come out; but in the majority of cases, may increase in intensity inasmuch in the stage of eruption symptoms denoting Congestion remain unaffected, and continue for some time, and thus give rise to more or less abundant expectoration, and by auscultating the chest you will have dry & moist Bronchial rales; The tongue is in many instances is coated, and sometimes elongated, blisters can be seen projecting between

the coating presenting the appearance of a number of red points -

Desquamation; this begins when the eruption commences to fade away, and its duration last from four to seven days, desquamation does not take place in all cases; in uncomplicated cases, this may be said to be a stage of convalescence, It is always tolerably well marked the epidermis being exfoliated in bran like scales or in flakes, at the same time febrile symptoms gradually disappear, occasionally the eruption on skin reappears, and after having lasted

the usual period again disappears, and in this stage diarrhea is apt to be present. I will now begin to speak of a much more mild form of the disease, known as Measles, Rubeola Sine Catarrha. in this form of disease the Schneiderian membrane Larynx, and Bronchial tubes are very little involved, therefore is of very little importance exclusive of the liability of confounding it with Scarlatina; the eruption is preceded by symptoms of constitutional disturbance, which passes away in one or two days.

True Rubeola in a majority

of cases, when of a grave type is most always complicated, and we find these complications seated in the respiratory system, true Croup is sometimes developed; Capillary Bronchitis is another complication, and when it attacks children under four years of age most always proves fatal, still this does not occur in private practice, found most commonly in Hospitals; we may class Pneumonia as the most frequent of all complications, and are attended with much danger in children, when the eruption does not appear at its regular

period you may rest assured that the disease will be more dangerous, but even here the Physician should take into consideration the thickness of the skin; for instance children who have a thin delicate skin, the eruption sometimes appears on the third day, while those who have a thick brown skin; it may not come out before the fifth day.

Causes of Rubeola. A specific contagion. It is scarcely doubted, that there is one specific cause of Measles; the infectious miasm, is not only received,

by those brought into contact with those affected with the disease, and is supposed by many of them capable of acting upon others through the air, by means of fomites— persons visiting Rubeolous patients, may contract the disease, and thus it is carried from one neighborhood to the other, it prevails much more at some periods than at others; this is owing to a peculiar epidemic influence— in what manner this acts, is not well understood, during epidemics all who have not had the disease is liable to it, cold weather appears to be the time, when the

disease is in full bloom, but it occurs at all seasons; no age is free from the disease, but few persons pass through life, but what they have been attacked by the disease, it sometimes attacks the same individual more than once; still there are cases related where the same individual has it twice." (?) J. H. Salisbury of Ohio has communicated certain facts or observations, as showing that the inoculation of the fungi of wheat straw, undergoing decomposition is capable of producing Rubeola; that by inoculating with spores, and cells of the

fungi of a viral type. a disease may be produced resembling Rubeola, and that persons in whom infection is in this way produced are rendered insusceptible to the disease.

Diagnosis-

Diagnosis has been almost sufficiently described, in speaking of the history of the disease. In the first stage Rubeola, may be easily mistaken for Catarrhal fever, although the hard, wet cough is almost sufficient to make the distinction, there is no way however save watching until the eruption comes out. It is indeed very difficult to diag-

Vaccination, especially if Infection is at the time of vaccination. The only disease liable to be confounded with Varicella, when the eruption has come out are Small-pox, and Hemorrhagic fever, and this in great part has been pointed out in speaking of the various Stages of the disease: now for us to make ourselves safe in regard to the distinction between Varicella, and Variola, we have to look for two kinds of Small-Pox, in order to make ourselves acquainted with the Diagnosis. Viz distinct and confluent; in the distinct

Unity the existence of the fever is a sufficient diagnostic sign; In the confluent fever it is more difficult, though eruption be present. But in Rubeola the rash is lofty prominent, and hard under the fingers, and the question is very soon decided by the immovable character of the Rubeolous eruption, while Variolous is rapidly becoming vesicular, and umbilicated.

Prognosis.

When the disease is not complicated the Prognosis is generally favorable, but in

very young children, when the eruption takes place before the third day or upon it suddenly disappears the Prognosis unfavorable. Pseudomembranous Croup is one of the malignant types, if it attacks the patient from the very onset of the disease, it will often prove fatal, so it is to be seen that the chief danger arises, when there is much Bronchial, and Pulmonary inflammation, and the danger is probably more serious in the declining stage, than during its progress. When the neuralgic symptoms are slight,

and the skin becomes moist after the appearance of the exanthema, I would consider the case to be a favorable one; Children while teething are attended with much danger, also when there is obstinate diarrhea. The vicissitudes of the weather must be taken into consideration, the disease is more dangerous in cold weather, than during warm weather, Old persons do not bear the disease so well as children, Among the unfavorable signs, when the fever is severe in the beginning and continues to run high before the eruption comes out.

restlessness, the patient tossing himself about in the bed, coma delirium are considered to be very unfavorable.

Treatment- In the ordinary uncomplicated cases nothing is more requisite, than to keep the patient on low diet, and attend to the state of the bowels, in point of fact if the Hygienic law be infarced the mildest forms require nothing more, and nature will accomplish a cure- However in the treatment it should be borne in mind, that the patient should not be over infarced, as to be burdened by

chilled, on the other hand neither should the room be too hot, as it is well known at present, that Rubeola, will not bear heat as well as in a case of Variola or Scarlatina, one of the very best rules is to keep the patient comfortably warm, bed clothes must not be of such weight as to oppress the patient; Children require vigilance as they are generally restless in state of fever, & thus become exposed to the cold, & such exposure aggravates the case very much Now if I was called to see a patient, who had a bad form

of the disease, if the patients bowels were constipated, I would give a Saline Cathartic of some kind; for palliative drinks such as Flax Seed Tea or some other diaphoretic medicine, as a drang-ht, consisting from two to three drachms of the Spiritus Aetherix Nitrici, with about ten grains of camphor water to be given ten die - Infusion of Slippery Elm; and a host of other remedies, which I could mention of, but I deem it unnecessary, as I am speaking of the mild form of the disease.

If signs of Pneumonia or Bronchitis,

be present, and inflammation-
Prostration with a tendency to stupor,
some have thought it best to
resort to Blood-letting by means
of Cups & Leaches, but it is the
opinion of many that this is
seldom if ever necessary, still
if the indications calling for
Venesection were present, there
would be no objection to taking
blood in small quantities.
When Croupy Symptoms come
on, the use of emetics may
be instituted, such as Ipecac,
this followed by a cathartic do
Calomel would be very good,
As long as Croupy Symptoms

use [illegible] Syrup of Squaw may be administered to great advantage. Opiates are recommended in the early Stages; The eyes in Rubeola often require treatment, and this is best done by demulcent liquids made from Sassafras pith, mucilage often not as well as any thing else, weak solution of Sulphate of Copper; Constipation though may be relieved after the eruption by means of opiates.

Retrocession of the eruption & its retardation often baffles the Physician, as to the best mode of treatment, Some

think it best to let nature take its
course, and I would know but little what
this would be my plan if there
were no unpleasant symptoms; if
I saw evidences that internal
mischief were going on, my first
object would be to bring the disease
to the surface, and to do this I
would use the hot bath; warm
drinks may be given with great
advantage, such as infus. of Balm
&c. small doses of Dovers powder.
in cases of general debility I
would make use of stimulents
internally such as preparations
of Ammonia & Aether, wine whey &c.
during convalescence there is

of the diarrhea, if moderate should not be checked, but if there be much pain, & trouble, should be treated as any other ordinary case; small doses of Dovers powder. Tonics & mild astringents may be used.
Cholera Infantum Bulletin is to be treated as other low forms of disease, Stimulants, Tonics and Cathartics, are to be resorted to, but great care must be taken in regard to their administration; Calomel in such cases are said to be very well borne; in conclusion I will say something in

regard to the period of convalescence, the patient should not expose himself to the inclemency of the weather for a long time, that is not to go out doors for several days after desquamation.

An.

Inaugural Dissertation.

On.

The Heart, Anatomically and Physiologically considered.

Submitted to the examination
of the
Provost, Regents and Faculty,
of
Physic.
of the
University of Maryland.
for the degree of
Doctor of Medicine.

By
A. N. Jones.
of
Virginia.

In order to understand properly the different functions of an organ, we must first understand its Physiological Anatomy, and then we can more intelligibly describe its function.

The anatomy of the heart varies considerably in the different classes of animals,

That of the Fish being the most simple. Here the heart Consists of two principal cavities. Viz. Auricle and Ventricle.

The heart of the Reptile comes next in order of simplicity, having two Auricles and one Ventricle.

Last but not least in importance comes, that of the Mammalia. It is to this we wish to direct our special attention, Here the respiratory process being

exceedingly active, and the Lungs the only organs by which the blood can be properly aerated. In order to facilitate this aerating proces, we have in man a double circulation, known, as Gen; or Systemic & Pulmonic. To meet the demands of this double circulation, we have a double heart. (One side benous the other Arterial.) The two sides of which, though united externally, are separated and distinct internally.

This the great organ of circulation, is situated in the middle Mediastinum. The heart is enclosed in a fibro serous membrane, belonging to its self proper. The Pericardium. This like all other serous membranes, is a closed sack, consisting of two layers, One external or fibrous. the other internal or serous. The fibrous layer is attached above

To the great vessels emerging from the base of the heart, forming as it were its root. Below it is attached to the dia-phragm. The serous layer invests the muscular walls of the heart, and is then reflected upon the inner surface of the fibrous layer. It might be remarked in this connection, that this sack contains normally about two drachms of fluid, this is important to remember, from the fact that it has been mistaken for effusion into the pericardium.

The Heart is a hollow muscular organ, situated obliquely in the chest, the base is directed upwards & backwards, towards the right shoulder. The apex is directed forwards & to the left. pointing to the fifth intercostal space. It weighs in the Female, from eighth to ten ounces, in the

Male, from ten to twelve, is somewhat conical in shape, Has four cavities, a Right & left Auricle with a corresponding ventricle. The former surmounting the latter, and forming the base, The heart is held in position by the great vessels springing from its base. They hold the base comparatively stationary. While the apex is free.

This organ is made up of two layers of muscular fibres. The most superficial layer runs in a Spiral direction; from base towards the apex, being twisted as it were from right to left. it is then reflected & becomes deep, and terminates in the Columnae carnae, & inner border of the Auriculo-ventricular rings. The deep layer of fibres are very nearly circular, in their direction, having their origin & insertion in the auriculo-ventricular rings & fleshy columns.

There are two peculiarities about these fibres, First they are striped having the appearance of a voluntary fibre; while in function they are Involuntary. Second, they anastamose with each other, which is a distinctive characteristic of these fibres alone.

The Auricles & ventricles, as above mentioned, have many things in common, but for clearness of description, we will consider them separately.

The Right Auricle is larger than the left, while its walls are thinner being about one line in thickness. its normal capacity is about two ounces. It has entering into it the following foramina. One for each Venæ cavæ. Coronary vein, Foramina Thebesia. & Auriculo-Ventricular opening.

The Venæ cavæ, have no valves

proper. but are supplied with circular fibres, which to some extent fulfill the office of valves. The Coronary vein (which conveys the venous blood from the structure of the heart) According to Dr. Wilson, is supplied with a semilunar fold of lining membrane stretching across its mouth, which during contraction of the auricle is pressed firmly upon the opening, thus preventing regurgitation into the coronary vein.

The Foramina Thebesia, are numerous little openings, through which the blood is constantly exuding from the structure of the heart, directly into the right auricle.

The Auriculo-ventricular opening is the opening of communication between the auricle & corresponding ventricle.

In the Foetus in addition to the above, you have a direct communication between the Auricles, through the Septum Auricularum, This opening is known as the Foramen Ovale. The Eustachian valve is but a fold of lining membrane, which serves to conduct the blood received from the Ascending Vena cava, to the foramen Ovale. This foramen is closed very soon after birth, leaving a small depression; known as the Fossa Ovalis.

The great bulk of the heart is made up by the Ventricles. The Right Ventricle is pris-moid in shape & forms nearly the entire anterior portion of the heart. its walls are about 2½ lines in thickness. Its normal capacity is about 2½ Ounces. It presents for examination two Openings, Viz. Auriculo-Ventricular & Pulmonary,

both of which are provided with valves. known as the bicuspid & semilunar. The Tricuspids are three triangular folds of lining membrane, strengthened by a thin layer of fibrous tissue, They are connected by their base around the auriculo-ventricular opening, while to their thick-ened apices, they give attach-ment to a number of slender cords. (chordae Tendinae) These are as it were tendons of thick muscu-lar columns. (Columnae Carnae) which serve as muscles to the valves.

During dilatation of the heart while the blood is flowing in to the ventricle, These valves flap back against the walls of the ventric-le & offer no resistance whatever to the onward flow of blood, But when the ventricle contracts upon its contents, the pressure of

the blood upon the ventricular surface of these valves, causes them to flap back & completely close the auriculo-ventricular opening, there being but one other opening the blood is forced on as it should be, through the pulmonary opening in to the pulmonary Artery.

But one very important fact should not be overlooked. If from any cause, there is any obstruction to the passage of the blood through the pulmonary circulation, causing the lungs & right side of the heart to be surcharged, by a peculiar and happy anatomical arrangement of the muscular apparatus of these valves, a normal regurgitation can take place. Thus fulfilling the office of a safety valve to the lungs, where there is more of the

circulating fluid sent than can pass through with out injury to their delicate structure.

The semilunar valves, are also three in number. They are situated around the pulmonary opening, consisting as in the former case, of a fold of lining membrane. Strengthened by a thin layer of fibrous tissue. They are attached by their convex borders, & free by their concave, which are directed upwards in the course of the vessels. offering no resistence to the onward flow of blood.

The margins of these valves are thickened, and present at their middle a fibro cartilaginous tubercle (corpus Arantii) Which when these valves are flapped back, completely closes the little triangular opening, that would other wise be left by the approximation of these semilunar folds. It was formerly maintained

that there was no safety valve principle existing at these valves. But it has been demonstrated; by recent experimenters, that under extraordinary circumstances, there is also some normal regurgitation through this opening. Hence we have two safety valves on the right side of the heart. both of which, serve to relieve the lungs when over distended, by allowing the blood to regurgitate, first into the right ventricle, thence into right auricle. which when over distended, causes venous congestion. Which is not as serious a matter as congestion & overdistention of the delicate lung texture.

The left . or arterial side of the heart, has many things in common with the right. or venous side. Thus the left auricle is similar in shape to the right

Its walls are thicker. hence its cavity is somewhat smaller. It presents for examination five openings, viz. Four openings for the pulmonary veins. and the opening between it and the corresponding ventricle. (Auriculo-ventricular opening). The openings for the pulmonary veins have no valves.

The left ventricle is conical in shape, and forms principally the posterior part of the organ. It forms the apex of the heart by projecting beyond the right ventricle. while the latter has the advantage in length towards the base. Its capacity is something less than the right ventricle. While its walls are much thicker & stronger. Normal thickness about seven and a half lines. While that of the right is just down at two and a half. The cause

of this is quite apparent. when we consider the great difference in the amount of labor they are called upon to perform.

The right is only required to send the blood to the lungs. While the left propels the blood throughout the entire system. Its capacity is from 1/10 to 1/8 less than that of the right ventricle. It presents for examination two openings. Viz. Auriculo-ventricular, & Aortic. Both of which, are supplied with valves. They are similar in their anatomical arrangement, to those of the right side. except, that there is normally no regurgitation on the left side of the heart. Thus the safety valve principle is also in existence here, but acts by preventing the regurgitation of blood upon the lungs.

As to the course of the blood through the heart. This has to a great extent been anticipated. Entering the right auricle, through the different openings as above mentioned, it then passes through the auriculo-ventricular opening into the right ventricle; by the regular contraction of the ventricle, it is forced into the Pulmonary artery. Thence into the lungs. where it gives off its carbonic acid, and absorbs oxygen. It is then taken up as arterial blood, by the Pulmonary veins and carried to the left auricle. Thence into the corresponding ventricle. by which it is driven through out the entire system. There is an exception to this course in the foetal heart. There being as above stated, a direct communication between the two auricles.

The movement of the blood through the cardiac cavities, is not a continuous steady flow, But is accomplished by the alternate contractions & relaxations of the muscular parieties of the heart.

Each of these successive actions is called a beat or Impulse of the heart. These successive actions are accompanied by certain phenomena; which must be considered in detail.

The sounds of the heart are two in number. and are known as the First & Second.

The first is synchronous with the impulse & Systole. While the Second ~~while the second~~ is synchronous with the Diastole. They differ both in position, tone & intensity. The maximum intensity of the first, is heard over the fifth inter costal space. At a point

Midway between a line drawn perpendicularly through the middle of the riffle, and middle of Sternum, It is long and dull, and occupies from four tenths to one half of the entire beat. Each has three distinct elements. Viz. Valvular, Muscular & Impulse. These different elements have been established by actual experiment.

Thus Dr Flint and others, interposed a silk handkerchief between the chest and Stethoscope. and the muscular element was destroyed. They then placed the Stethoscope over the fifth intercostal space. and the Impulse of the apex against the walls of the chest. was rendered more distinct. In order to show the existence of the valvular element, The finger of the experimenter, was

introduced into the Auriculo-
ventricular opening, when he could
feel the valves flap back against
the finger, but the valvular el-
ement of the first sound was
destroyed. Thus as we think
conclusively demonstrating the
existence of the three elements.
Not withstanding, the Opinions
of Drs. Andral & Dallon to the
contrary. Who maintain, that
the valvular element is the
sole cause of the first sound.
The maximum intensity of the
second sound; is heard over
the region of the Aortic & Pul-
monary valves. That is at a point,
corresponding to a line drawn from
upper border of third inter costal
Cartilage on left side; across the Sternum, to the
second inter costal space, on the
right side. This sound is short
and quick. And is Synchronous,

with the Diastole of the heart.

The cause of this sound is now universally admitted to be caused, by the sudden closure of the aortic & Pulmonary valves.

The second Phenomina to be observed; is the movements, which are of a peculiar kind, and have often been erroneously described. The auricles contract simultaneously. So also do the ventricles, Their dilatations are also simultaneous. The auricles contract first. & then immediately follows the contraction of the ventricles. During the relaxation of the ventricles, the blood is flowing in a constant stream, through the auriculo-ventricular openings into the ventricles, the capacity of the auricles being less than that of the ventricles, they become first distended, and instantly contract,

thus forcing their contents into the partially filled ventricles, distending them, whereupon they at once contract, driving the blood throughout the entire system. These movements of contraction & relaxation, continue to alternate with each other, and form by their recurrence the successive cardiac pulsations. The frequency with which these pulsations are performed, vary under different circumstances, Thus the normal number of pulsations in a healthy adult male, average from seventy to seventy five per minute, They are increased considerably after active exercise. They are also slightly increased during digestion. But are diminished during repose. as in sleep &c.

In general terms, however, the number of pulsations decrease from the commencement to the end of life. Being

on an average, according to the most reliable observers. About One hundred and forty at birth. One hundred and ~~thirty~~ during finish year. Continuing to decrease. Until in extreme old age. They may be as low as forty five or fifty per minute. The effects of disease upon the action of the heart is frequently well marked. It should not be forgotten, however, that increased action does not, as has been supposed by some, indicate increased force. But on the contrary, the increased frequency, is set up in order to supply the amount of blood required for the actual want of the system. Which cannot be supplied by the normal number of pulsations, when the contractions of the heart are weakened and enfeebled from any cause, what ever that cause may be.

At every pulsation, the heart undergoes certain changes, Thus at every Systole; the heart hardens. This is readily appreciated by grasping it between the finger and thumb, at the same time, it communicates to the hand, the sensation of a sudden shock.

It also under goes some change in reference to its relative position to the parietes of the chest,

According to Drs Harvey, Moore, Pennock Dalton & others, the heart elongates at every Systole, in the direction of its long axes. Adopting the arrangement of the fibres already given, and so admirably illustrated by Dr Dalton. We do not see how this could be otherwise. For it is well known, that when a muscular fibre contracts; it renders it thicker & shorter. At the same time if its direction be

spiral, it tends to straighten it.
Hence, during the contraction of the external layer of fibres of the heart. They tend to undo their spiral course, thus producing the rotation from right to left. While the internal layer of circular fibres, contracting and at the same time thickening, causes the protrusion of the apex, or rather the elongation of the Organ. Hence it is with the rotation from right to left, and at the same time the elongation brings the apex against the parietes of the chest, which produces the impulse.

The cause of the rythmical action of the heart is not well understood. Many theories have been advanced to explain this phenomina but none are altogether satisfactory. By some it was supposed, that the contact with arterial blood, was a sufficient cause for this

action. But this is disproved by the fact, that the heart will contract after its removal from the body. No arterial stimulus whatever, being afforded.

By others, it is argued; that this rythmical action, is kept up by a principle existing in the blood, and that carbonic acid is that principle, But this is open to the same objection above stated.

Again by others it is thought, that it is connected, with numerous minute ganglia, of the sympathetic system, which with connecting nerve fibres, are distributed through out the entire structure of the heart. These ganglia it is argued, acting as so many centres or organs, for the production of motor impulse, while their connecting fibres,

connect them into one system, and enable them to act in concert, and direct their impulses so as to excite in regular series, the successive contraction of the muscular fibres of the heart.

This would appear reasonable, for it has been shown, that the heart of a reptile, may be bisected, and yet these regular rythmical actions will continue in the separate parts. We therefore cannot say, that the action of the right side depends upon the left or vice versa. Nor that the Ventricles depend upon the Auricles. for if we separate them, this regular rythmical action will continue. Hence; the ganglionic theory, appears to be more satisfactory than any other theory yet advanced. But here according to Lebert. we have, this

all rendered uncertain. For I, (Sebert) says he has observed the foetal heart to pulsate, while it is still composed of simple cells, before any trace of nervous system could be traced.

The truth is, that there is some ground for all of the above named theories. Yet none of them are strictly true. For it is evident that the action of the heart cannot be kept up for any considerable time, without the influence of Blood, Carbonic acid and nerve influence all combined.

AN

Inaugural Dissertation

ON

Tetanus Traumaticus

SUBMITTED TO THE EXAMINATION

of the

Provost, Regents and Faculty

of

PHYSIC,

of the

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

Doctor of Medicine,

by

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of

Virginia

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There is probably no organ in the human body whose anatomical structure is better understood than that of the Eye. The skillful hand of the expert anatomist has from age to age with a patience and energy, and a perseverance worthy the cause in which engaged, so divested it of its mystery, so extricated its delicacy of structure, so successfully unbraced its tendons and muscles to the diligent and scrutinizing Steward of Christ's Ministry, so carefully removed many of the difficulties incident to the subject and so impudiment to the learner in his initiation as he is, and so effectually instrumental in casting off its shroud and mask with all attendant to a great extent, a fair opportunity of attaining

[illegible] a perfect acquaintance with it. The eye is now placed, extricated from its apparent entangled condition, and thus prepared to be met by the sense of thought, before us, in all its attractive simplicity, only awaiting from us the amount of talent, that in the anxious enquiry, to render its study successful and complete.

The Eye may be regarded as a great optical instrument, differing, only [illegible] for as accurate is our knowledge; as [illegible] an imitation of its structure.) those of human invention in its great degree of perfection and simplicity, and by its being placed under the direct control and supervision of a mind.

Although such is our knowledge of its anatomy, yet, it is a lamentable truth, and a deplorable fact, that its Pathology has not kept pace with the advanced stage of that science in general, and this can be attributed, no doubt, to the circumstance that this branch of the healing art, has been consigned without reluctance by medical men in general to the exclusive care of professed oculists.

I do not design in this short paper to give a minute discription of the eye, or its pathology; but intend merely to make a few general remarks concerning a disease, met with in children more frequently than any other lesion of this important organ, and though one may not be met with in

every day practice.

Including as the eye does a large portion of the different tissues entering into the histological structure of the human body, its diseases would readily be expected to vary considerably in their character and differing however from the diseases of the other organs of the body, except, perhaps in the great delicacy of the part affected.

Indeed it may be said to resemble a Microcosm in which we can view all the various changes engendered by disease, occurring in other organs and tissues throughout the system: By its transparency we are enabled in a great degree to discover with more precision the seat, and trace with

certainty and accuracy the rapid progress and decline of these different morbid changes: we can observe the gradual conversion of the natural and healthy tissue into an unnatural diseased and disorganized structure, and can detect with greater certainty the proximate diagnostic symptoms and attend each of its particular—affections.

Our diagnosis being thus aided and clearly determined, it is natural to suppose that the therapeutic indications, are, and should be directed with a greater prospect of success.

Inflammation occuring in this organ is characterized by the same morbid phenomena attending by the

same preservative influences, or followed by the same distinctive consequences and results, which it is found to assume when attacking the different tissues, entering into the structure of any other organ of the body.

The characteristic signs are to be met with in all of the various organs of the system, but are so modified by the peculiarities of structure, or function of the tissue, or condition of the patient, that they have afforded for the pathologist, a basis for numerous distinctions.

Nothing is more clearly proved, than that every acute inflammation of an organ, has its commencement in a single tissue of its structure

tion, and is accompanied throughout its course by phenomena indicative of the peculiar tissue affected, and once being called into existence, it is extremely liable to extend itself along the tissue in which it commenced at first manifest, or by contiguity, to adjacent tissue entering either into the composition of the same organ, or that of a neighboring. And having extended itself, to an adjoining tissue or organ, it is attended by another train of symptoms alike indicative of the structure involved. Again, inflammation having once visited an organ, or one of its component tissues, it renders

that organ or tissue for the future more susceptible to its influence, than it was previous to its invasion, the truth of which experience has amply demonstrates

No better illustration of these facts is afforded, than what we witness in the different varieties of this great source of disease as it affects this interesting and important organ. The inflammation attaching to the conjunctiva a mucous membrane, differs in its appearance and consequences from that attaching to the tissue of serous tunic, and these again differ very much from that inflammation which invades the iris, whose rapid progress

and great tendency to destroy vision.
When left to the powers of nature
alone, it probably unsurpassed by
acute diseases of the eye, and none
can which the continuance of it can
cause a more decided, and beneficial control, when timely applied.

The causes of Ophthalmic inflammatory diseases are in general the same as those which give rise to inflammations in any other part of the body. The most common is exposure to sudden changes in the temperature of the atmosphere which chills on the whole surface of the body or upon the vicinity of the eye only or the sudden cooling of the body

when it has been preternaturally excited by local irritation. Again, they may be owing to a peculiar disease already existing in, and affecting the whole system, of which they are but a local symptom, requiring for their removal the correction of the existing diathesis, as in scrofulous conjunctivitis, or rheumatic ophthalmia; or by the application of a specific virus, as in gonorrhœal ophthalmia or iritis syphilitica, or by blows, injuries, or wounds, as iritis traumatica.

Symptoms of Ophthalmia.

Ophthalmia is a term applied to denote an inflammation of the

eye ball or eye-lids. They may be
either scrofula or syphilis. I have
to treat them if they come on
them in persons of strumous
habit, to which the same diag-
nosis Ophthalmia has been given,
and in one of which they appear in the
diseases believing, as I do that it
may occur when the scrofulous
constitution does not exist.

We meet with this form of
inflammation in the eye of child-
ren more frequently than all others.
It is believed that at least eighty
per cent of the Ophthalmia occurring
in Children from the age of one
to twelve years, is of this form.

In most general attacks those
succeeding well marked Symptoms
of a scrofulous Constitution, such
as have loose and flabby muscles,
swollen and prominent abdomen,
a feble and languid circulation,
and enlarged and swollen Lymph-
atic glands &c.

Children of any form in
childhood when most of these
Symptoms are about [illegible]
not manifested [illegible] that the
diathesis is not present, rather should
[illegible] the existence of the
[illegible] manifesting itself in the eyes become

of the delicacy of their structure they are less able to resist its influence than any other organs

This disease has its primary cause in the digestive organs, and is owing to imperfect assimilation of the food, depending upon the cause to an improper diet, being unsuitable to the child's tender years & weak assimilative powers, or to an unwholesome condition of the atmosphere, in places where such patients are usually found.

From what I have said you will see that I do not regard this as a local disease, but rather as a symptom of a constitutional affection, depend-

ing upon a peculiar taint of the system. I am aware that I have attacked some high authorities by assuming that this is not merely a local disease, nevertheless, from the data I have obtained and read, I am forced to the conclusion that the justly celebrated German pathologist, Virchow, was altogether mistaken in regard to the nature of the malady. The predisposing causes of this disease, are evidently of a constitutional character, which is clearly proven by the fact that it is more common with children, than any other affection of the eye, and that as they approach puberty, it is the exception to the rule.

that constitution predisposes to it, is
evinced by the fact that although
but few other than those formerly
well marked by symptoms of scrofulous
constitution.

The exciting cause may be one of
lack of catarrhal ophthalmia, or it
may exist as sequelæ of variola, rubeola,
or scarlatina; though it may exist as
a primary disease without any appreciable exciting cause.

The most prominent of the early
symptoms, are great intolerance of light
a bright light produces lachrymation
or photophora. The eye lids will be found
to be spasmodically closed. The cheeks,
drawn upwards, and the eye brows de-

diseased, and in the majority of cases, a pustular eruption extending over the face and temples, and not unfrequently, we find the cheeks inflamed and excoriated from the hot and acrid tears, which are continued pouring over them.

The little patient will seek some dark place, and cannot be induced to come into the light. He, like in the brute so common a Children of, his eyes; When forced to leave his dark corner he will cover his eyes with his hands or cover them. He protect them from the light & air; I say air, because I believe there is quite as much intolerance of air, as there is of light,

It is generally impossible for the patient to open the eyes even when so disposed, because of the great intolerance of light and the spasmodic closure of the eye lids; it then becomes necessary for the surgeon to open them that he may continue his examination. This is accomplished by applying the points of the index finger of one hand, to the border of the upper lid & the [illegible] of the thumb of the other hand, then gently sliding them against the eye ball as far as they can be taken out to [illegible] against their orbital edges.

When the eyes are open, there will be a push of air that runs from them in

conjunctiva of the [illegible] of the eye lids. When the eye-lids have been long closed and the edges of the lids be much inverted as to bring the cutaneous surfaces in apposition, we will find that these surfaces have acquired some of the general characteristics of a mucous membrane.

We also find and very marked [illegible] but there may be slight circumscribed [illegible] which will [illegible] the [illegible] be seen collected in distinct fasciculi which course from the angle of the eye [illegible]

[illegible], a new formation, but vessels
[illegible]
minute, that they could not be
seen by the naked eye, now so
much enlarged from the inflam-
mation [illegible]
ly pass through them, rendering
them visible to the observer.

[illegible]
[illegible]
1st. a deposite of coagulable lymph,
so that this should become organ-
ized. Then, we might expect to have
[illegible]
structure: but in this case we have
no exudation of lymph, consequently
there can be no development of

corneal part, which is in my opinion con-
origin. But I must return to my sub-
ject. Wise men if we wish to
bridle treatment, will penetrate the
proper substance of the cornea, when the
membrane of Descemet will protrude
through the opening in the form of a
vesicle without rupture. This vesicle
and the aqueous humor escapes, when, we
will have a transparent
cicatrix. The pupil is then
like a white ball, and we
the eyeball.

the best condition for the reception of our remedies, the sulphate of quinine, from the stom. Because of allowing the sulphate to the system, and retaining it there, should be given in some dose [illegible] dose of a teaspoonful and in three ounces [illegible] three times a day, [illegible] gr. v to gr. xv or xx. [illegible] hour before each dose, before eating. The dose [illegible] to be regulated according to the [illegible] of the patient. [illegible] is exhibited for its combined nutritive and alterative influences; this indeed is a [illegible] [illegible] in the treatment of [illegible] diseases. The local treatment consists in applic-

ing a solution of nitrate of silver either with a camel's

200 or 300 day; should an ulcer threaten to perforate the

of the eye, a solution of belladonna,

to the anterior chamber, it should be touched once or

twice with the stick, daily. The eyes

should be kept constantly

Ulcerations or anodyne collyrium may be

used. When ulceration

the medical treatment above described, the diet

should be light; vegetables, and nutritious but

not too much meat. The

warm and comfortable, with regular exercise in

the open air. These measures if carefully observed

will in most cases result in the restoration

the patient's health.

AN

Inaugural Dissertation

ON

"Scarlina"

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

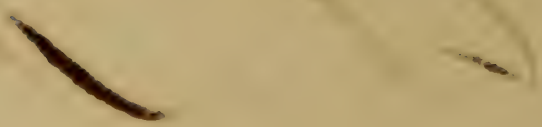
By

"Charles" "Thomson"

Of

"Maryland"

Session of 1861



Scarlatina

Ever since the year 1553, when the disease was first described by Bolyes, down to the present time it has been a shining mark for therapeutical skill. Every department of nature has been explored for remedies; and very frequently the Physician in his misguided efforts to cure the complaint, has inflicted more suffering upon his confiding patient than the malady itself; and I have not the least doubt that in many instances the mortality from the disease has been greatly increased by erroneous modes of treatment

In the present state of our knowledge on this subject, we think that there is abundant evidence to prove, that Scarlatina is produced by a specific morbid agency derived from the Atmosphere and is both infectious and contagious. That its phenomena are fevers, a bright red rash upon the skin and mucous membrane of the mouth and throat attended with enlargement of the Tonsils, and sub-maxillary glands, which after a few days subside, when a general desquamation of the cuticle takes place, and by degrees the patient is restored to health.

1st. Varieties and Symptoms of

Scarlatina, medical writers have described four distinct varieties of this disease. 1st Simple scarlatina 2d Scarlatina anginosa 3d Scarlatina maligna 4th Scarlatina latent.

The symptoms of each of these forms of the disease vary so much in different attacks and epidemics, that they require a separate description

Simple scarlatina, is commonly ushered in by lassitude shivering, succeeded by heat thirst quick pulse, and occasionally nausea, headache and sometimes delirium, these vary much in degree in different cases, from this

slightest disturbance of the constitution to severe fever.

Generally about the second day the eruption appears in the form of red spots first upon the face and neck, and subsequently these coalesce and spread over the trunk and extremities, on the third day the eruption is at its height, and then appears in the form of a continuous bright redness upon the extremities, and large irregular patches upon the trunk of the body. The skin at this period is dry and hot, but it gives to the touch no feeling of roughness

It may, however, occasionally be intermingled with miliary vesicles or papulae, especially when the patient has been subjected to a stimulating treatment; The eruption at this period may also be seen upon the inside of the mouth and throat, which assumes a bright scarlet color; The tongue if clean exhibits the same hue, & the papillae appear through the coating of the fur, and their redness as well as that of the lips affords a strong contrast to its white or yellow color, This is the Strawberry Tongue

of some writers, and is highly characteristic of scarlatina from the fact that it is very rarely found in any other disease.

Dependent upon the occurrence of the eruption in the fauces, there is always more or less sore throat. On the fifth day the eruption usually begins to decline, and in a day or two afterwards, altogether disappears, its departure being attended with a general desquamation of the cuticle of the whole surface of the body.

Scarlatina anginosa is a more aggravated form of the disease.

The precursory symptoms

are always more violent than those just described.

In many cases the first difficulty complained of, is a sudden stiffness of the neck, throat, and angles of the jaw, accompanied by uneasiness in swallowing which on the second day becomes more painful: and difficult, the suffering of the patient being rendered more distressing by constant efforts to expel a viscid secretion from the tonsils and pharynx, upon examining the throat, there is considerable swelling of the tonsils, uvula, and soft palate, with

florid redness of their surface, which extends to the posterior part of fauces.

In grave cases, small patches of a dark hue are observed in the inflamed membrain, at which point there is an exudation of coagulable lymph, of a greenish white appearance which unless examined with care, may be mistaken for a slough of the mucous membrane, but by directing the patient to clear his throat by means of some simple gargle, by which this exudation may be removed the membrane will be found entire

and free from cough or any irritation.
In some cases the fever is seen
to precede or accompany the
sore throat, in others it is delayed
until the appearance of the rash.
It is generally, from its commencement of a more active kind
than in simple scarlatina,
indicating a severe form of disease
on the second or third day, as
the inflammation of the throat
increases and becomes more urgent,
& when it is generally an augmentation
of the fever, the debility is greater;
the respiration oppressed; the
temperature of the skin rises
to 106° or 108° sometimes to 109°

There is very urgent thirst and the tongue especially at its tip and edges, assume a scarlet hue while the papillae are much enlarged. As the evening approaches there is an exacerbation of fever, with extreme restlessness and often delirium during the night.

In this form of scarlatina the rash does not observe the same regularity as in the simple. It does not commonly appear so early but is often delayed to the third or fifth day and generally comes out in scattered patches on the chest and arms.

In some cases it is confined to

the back of the hands and wrists.
and sometimes wholly vanished,
when after its appearance and re-
appears partially at times, so that
its whole duration is longer than
in the simple form of the
disease about the fifth or sixth
day it begins to grow sensibly
pale, following the same order
in its duration which it had pre-
-viously observed on its appearance,
subsiding first on those parts
which it had previously occupied,
Desquamation of the cuticle, though
this is by no means an uniform
occurrence, seeming in some measure
to depend on the intensity or

duration of the previous eruption, for when the latter has been slight and of an evanescent character, desquamation seldom follows. The fever and the inflammation of the throat begin to abate with the fading of the eruption, though sometimes the sore throat and some degree of fever continues for a week or ten days after the rash has entirely disappeared.

This description which we have now given of Scarlatina anginosa, is that type of the disorder as it is usually observed, without any complication. But it sometimes assumes a very aggravated form,

Thus, in addition to the symptoms already described, there is sometimes an acrid discharge from the nostrils and eyes, frequently accompanied with depression and inflammation of the parotid and cervical glands, terminating in suppuration of the cellular tissue. But although these occasional complications tend to keep up the constitutional symptoms, and prolong the duration of the disease, they do not materially add to the danger, as they generally subside in a few days after the disappearance of the more characteristic symptoms of the disease.

Scarlatina maligna is a most terrible disease. Its symptoms, at the commencement, differ but little from scarlatina anginosa yet at a very early period, its formidable nature is readily detected by the careful diagnostician. Thus, the fever assumes a very low grade, the heat of the skin is less intense, and there is great disorder of the functions of the brain with small, frequent, and often irregular pulse.

There is, at the same time dull redness of the eyes, with a darkened flush on the cheek the patient is restless, fretful and at times delirious. The delirium is

sometimes violent but more gener-
-ally it is of a low muttering kind.
The tongue quickly becomes dry and
brown, or red, and sometimes there
is little and sharp pain that slight
motion causes it to bleed freely.
The teeth and lips are covered with
sordes and the odor of the breath is
extremely offensive. The throat has
a dusky appearance, there is not
much swelling, but dark incrust-
-ation forms on the uvula, and
tonsils, which are not as has been
generally supposed sloughs, but
merely exudation of lymph and false
membrane. In some cases however there
is gangrenous inflammation of the

parts are often destroyed by the sloughing that succeeds.

There is at the same time an acrid excoriating discharge from the nostrils, and a viscid secretion from the fauces, impeding respiration and producing a rattling noise in the throat. The inflammation in severe cases, spreads to the pos- terior pharynx which though not swollen, is so irritable that an attempt to swallow fluids, they are rejected through the nostrils.

The inside of the lips and cheeks are frequently covered with epithelium and the cervical and sub-maxillary glands become inflamed, abscesses occasionally

forming in the cellular tissue.

The rash is extremely irregular as to the time of its appearance and duration. It often comes out at a late period of the disease and disappears after a few hours; or it vanishes suddenly, and is again renewed several times during the course of the disorder. Its color is generally paler than the other varieties, except that here and there in irregular patches, it assumes a deeper hue. In some cases there is a great tendency to hemorrhage from the mucous surfaces, either from the throat, nostrils, intestines or urinary canal, the eruption appearing upon the skin and the patient

gradually sinks, unless the constitutional powers have been previously very vigorous. In many instances this variety of the malady terminates fatally on the third or fourth day in some rare cases, it has been known to prove fatal on the second day. In the latter case life appears to be at once extinguished by an intense impression of the poison upon the great nervous centres.

Even before the rash has had time to be developed, the patient's existence is suddenly terminated with convulsions or coma.

The latent scarlatina hardly admits of a separate description; its

symptoms appear to consist of a mixture
of those of the other forms of the disorder,
and assume no regular order in their
development. And if it was not for
the prevalence of the disease, in the
family or neighborhood of the patient
it might be mistaken for several other
disorders of a kindred type,
As in other forms of the complaint,
the attack is commonly sudden, the
patient at first becomes, pale and
faint. In a short time he com-
plains of pain or giddiness in the
head, attended with oppression and
uneasiness in the region of the heart
or pit of the stomach, sometimes he
sinks, as if overcome by a universal shock

and lies in a State of confusion and oppression without making a single complaint. At other times, he may walk about, pale and languid for a day or two, and then take his bed, like an individual exhausted by some great fatigue or mental anxiety. When the disease has become fully and decidedly established, the pulse is commonly feeble and intermitting, the respiration irregular, and not unfrequently very slow, the eyes dull but sometimes glassy, the mind which at first was confused and dejected, becomes delirious, and the patient soon expires, either in coma or convulsion. In this form of

scarletina, there is commonly very little sore throat, no enlargement of the glands of the neck and no eruption on the surface of the body.

This form of the disease frequently runs to a fatal course in two or three days from the commencement of the depression.

Complication of Scarlatina.

In every form of this disorder we frequently meet with complication that demands our especial attention, such as inflammation of the membranes of the brain, pleuritis, peritonitis, nephritis, pneumonia, pharyngitis, laryngitis and gastro-enteritis; but we shall

remember that the various serous membrans of the body are more apt to become inflamed in this disorder than the parenchyma, and is therefore always more dangerous. I believe it may be stated as a general fact that more patients die with these complications than the primary disorder. They may attack the patient at any stage of the complaint and if not promptly arrested terminate his existence in a very short space of time. Each of these complications will, as a matter of course, produce their own special lesions and symptoms but I have not time on the present occasion

to treat of them as fully as
their importance requires.

An

Inaugural Dissertation

on

Opium

submitted to the examination

of the

Provost, Regents & Faculty

of

Physic

of the

University of Maryland

for the degree of

Doctor of Medicine

By

J. Conrad Hunter

Berkley County

West Virginia

session 1866-67

Opium

This medicine has been known and used from the earliest periods. It was employed as a medicine in the first centuries of the christian era, but its application was not general or extensive until about the [illegible] century when its virtues were discovered: it was about this time that Sydenham and his contemporaries employed it with such happy results.

Of this medicine there are several varieties, among which are the Turkey, the Egyptian, East Indian, Persian, and European. These varieties have also been subdivided. for example, Turkey or [illegible]

varieties of the East Indies
names of the Turkey, have been dis-
cussed. In common, however, the
only distinction made, is the varieties
previously mentioned.
As found in this country the Tu-
rkey opium is considered the best. It
comes into our markets in the form
of irregularly shaped, flattened balls,
weighing from one half to two
pounds. It is of a dark brown col-
or externally, but of a lighter and red-
dish color internally. It is softer
in texture than it is ordinarily. It
is said to be, when it is fresh, viscid;
it has a dark brown color, but be-
comes in time a dark [illegible]

(expiring de ité ...

As seen in the bags in this country
is generally of a dark brown color, and
if it is a fair specimen, exhibits the
broken ofium, a number of shining
specks distributed all through it.
possesses a pungent odor & bitter
taste. This variety yields, on an average,
about 11% per cent of the active
ciple.

Of the other varieties, little
to this country, the Egyptian does some-
times appear in our markets, but it
may be readily distinguished by its
being of smaller size and by its two
or flattened sides. The cakes rarely
exceed half pound in weight, more

generally weighing from four to six ounces: it is described by Dr Duncanson as being of a pale [illegible] and dry, and of a waxy texture. This variety is inferior to the Turkey, yielding only about three pounds of extract per hundred.

Two varieties of the East India Opium have been described - the Malwa & the Bengal Opium. The Bengal is seldom met with in this country, it is the most inferior of these two varieties: it is in balls, used by the Chinese for smoking. The Malwa is in balls weighing about 10 pounds - which are found to consist of a coposite mass of the [illegible] surrounding the Opium. ate

is said to have been greatly improved by cultivation.

The Indian rice at our tables, as it is to be distinguished by the Europeans, but a small proportion has obtained some reputation, it appears in small white cakes weighing from one to ten ounces, resembling the Smyrna opium except that it possesses a less pungent smell and a less bitter taste. It is said to furnish only one third the amount of pillow, or rather action principle that the Turkey opium supplies.

The Persian opium appears in cylindrical sticks. It does not burden on the proportion to the other qualities as the

[illegible] has a bitter taste and pale [illegible]. It is regarded as very inferior to any of the varieties mentioned.

European Opium. Under this name are classed those varieties of the opium that is raised in Europe - viz in England France & Germany - it is similar in appearance to the Turkey [illegible] being [illegible] precisely, but all possessing a similar appearance. As a general thing this opium is not of good quality although some specimens [illegible] possess a large amount of the active principle [illegible] a piece of [illegible]

off the Turkey opium at
the low price at which the Turk-
ish can afford to export it =
the importation of this variety
is profitable. Of the different varities
of this drug already described, there
are some characteristics common
to all. The bitter, pungent taste
and strong peculiar odour are
principal. All the varieties
possess in some of these qualities
more than in others. With the exception
of the Persian & some of the varieties
of the East Indian opium, it is
hard and unpleasant. The two varieties
above mentioned also remain a long
time soft and unpleasant to the an-

It is easily powdered or [illegible]
and when in this condition should
be kept in a dry place and in
closely stopped bottles because of its
[illegible] attracting moisture. It
is frequently adulterated and it
sometimes requires [illegible]
detect it. If one not unfrequently
finds small stones pieces of wood
and stems of leaves &c.

Opium is also sometimes [illegible]
fraudulently moistened. It is allowed to
stand in water for a length of time
sufficient to extract a [illegible]
of the active principle which the
opium is sold as if it had never
been deprived of it and [illegible]

It is extremely difficult to detect adulteration of this kind, and we must be on our guard against it. As a rule it has a hard, dry taste, and a disagreeable odor, and little taste, and the [illegible]. It is said that if you draw a line of opium across a piece of white paper, and it leaves an interrupted mark that it indicates a good quality.

The method of preparing opium is not the same in all countries. It is prepared in the following manner — At a time when the fruit is about half ripe, and it is about the size of a hen's egg

it is cut by an instrument made
for [illegible] and called a
[illegible] on the outside of the
bandage. It is now ready for
use. [illegible] balls when it
is [illegible] a month or two
to dry.

The value [illegible] of the
opium only exists in the shop as the
[illegible] it is worth half price.
Hence the necessity of renewing the
[illegible] from time to time.

Preparations of opium. Of these we
have quite a number; some of them
are not much employed in the
present [illegible], while others
have a wide range of application

medicine on account of the ingredients which it contains.

The other preparations of the same order do not differ from those just mentioned in their action, but in their strength and mode of preparation. It is usual to have all these preparations became familiar to the pupil under certain general rules for administering them, on account of idiosyncrasies or some other circumstances contra indicating it, while another preparation may have the desired effect. The next, and perhaps most important preparations, is those which are used to excite

since the discovery of
Morphine, it has obtained
great reputation & to great extent has
supplanted many of the other preparations
of Opium, because it is much less
liable to [illegible] than the crude
article of Opium in other forms, such
as laudanum, paregoric, &c.
When I speak of Morphia, I refer, of
course, to its salts, as it is then in the
form of sulphate, the muriate, & the acetate.
Morphia is obtained from Opium in the
following manner. The Opium is first
pulverized and mixed with a certain quantity
of water. The water dissolves the narcotic
of Morphia. You now add a solution of
Ammonia which combines with the

Meconic acid forming C. T.
ammonia and also the morphia from, acid
of Opium. To make Opium
or Ether by means of Boiling
Alcohol. when it is fit for use, although
it is rarely employed as a medicine in this
form. It exists in the form of white
[illegible]
[illegible]
[illegible]
From all these other constituents of
Opium which have been isolated and
examined by the Chemist there are only
three of much value Morphia
Codea and narcotine. but little is
known of narcotine from Opium
or does exist

Codia or Codeine is a white [illegible] a water, alcohol and Ether, unites with acids forming salts. It is supposed it poses the virtues of a narcotic and similar in its effects to morphia; but it is not about one half as strong as this. This may be given with safety to young children.

Narcotine is a white, solid, tasteless, inodorous preparation. It is, after the action of Ether on the Extract of Opium, the narcotine is dissolved in the Ether, while the other is left unchanged, the Ether is then driven off by evaporation and the narcotine precipitates. In this state it is said to resist the exciting [illegible]

[illegible] poor authority. The best cure to be that little is positively known of their constituents, [illegible] statements made by different Chemists in reference to its properties, and mode of action it is most impossible to form a correct idea of its real virtues. Vaccinia is intensely better much more better than Morphia when in combination with an acid forming a [illegible] salt, Lemon, &c not affected to be permanent. There are several other constituents of which the [illegible] is known but will not be mentioned them, especially as they are of no practical importance

In the employment of this medicine
[illegible] [illegible]
in this pain. Few remedies in the
Materia Medica have a wider range, or
a more uniform set of symptoms and
indications which it fulfills, will
be found to exist in a great number
of diseases which are seen in the
Country: to specify all the cases to
which this remedy is applicable, would
require a much more lengthy and
detailed account than an article
of this kind [illegible]

In that class of diseases where pain
is one of the characteristic symptoms
no medicine acts so promptly and
efficiently as [illegible]

Again, in those diseases in which
nausea or vomiting is a
distressing and danger-
such as the delirium of drunkards
and others of a like nature, no
medicine, or an other narcotic act
more beneficially upon the stomach
can be better used.

Dr Hood has
said "no medicine is so efficient in relaxing
spasm and in controlling those
muscular movements which depend on
an irritable condition of the nerves." Hence the
employment of opium in such diseases
as tetanus, spasmodic stricture of the
Ureter or of the Gall duct.

in those of the intestinal canal."

The use of Opium in combination has been [illegible] to do with [illegible] Malignant [illegible] is familiar to all. Pleasant results also follow the administration of even a single dose of the well-known Dover's Powder when from excessive mental or physical exertion it is impossible to procure sleep. When given in small doses Opium as a stimulant or excitant has sometimes been employed in this way, while in large doses acts as a sedative [illegible] Opium acts first as an Excitant

[illegible] is of very short
duration, passing off quickly and
[illegible] to a debilitated state of
the system.

The [illegible] in all of its [illegible]
-duces its effect upon the system as are
stated by different writers; the view gener-
ally accepted is that it is taken into the
[illegible] and there [illegible]
and produces its effect on the
nervous system. In small doses it
effects the appetite and digestive
[illegible] also, it is moderately la-
tive. It produces sleep, relieves pain
and relaxes spasm and diminishes the
contents, but in some particular
cases it acts in directly a contrary

manner. In fact of shock it may produce wakefulness - in place of stupor delirium, and cases have been where it has produced the most violent convulsions. These effects are rarely met with, and when they do occur can be combated by appropriate treatment - by cold douches &c. or the use of anti-spasmodics &c. You will often find that some one of the preparations can be administered without arising rise to these unpleasant results.

The usual mode of administration is in the form of pills or mass, but this method is impracticable if the [illegible]

when given in this way it is necessary
to employ about from two to three times
the amount ordinarily given
by the mouth for the same
results. The Endermic method is by
application of the solid to the
skin, but one of the denuded surface
Another mode is the Hypodermic
method viz: by injecting a concentrated
solution of morphine under the skin
by means of a small instrument
for that purpose.
The advantages of this method
which is just becoming to be fast
being used in the United States are
so obvious

[illegible]

The use of Opium in Inflammatory
diseases is generally contra-indicated on
the [illegible] That Opium is a stimulant
[illegible] admits, and also
that it should be employed on
account of [illegible]

From the amount of
evidence adduced, there seems to be
little doubt of its efficacy in the treat-
-ment of acute Inflammation with
a single exception - viz: the Brain
and its investing membranes.

Although Opium has for a long time been given in Delirium Tremens - yet since the pathology of the disease has been more clearly understood, other remedies better calculated to fulfil the existing indications have almost entirely supplanted it.

In the consideration of this subject I cannot forbear to mention those unpleasant results which follow the employment of the drug in excessive quantities - or in other words the poisonous effect of Opium.

After Opium has been taken in poisonous dose the following symptoms soon begin to manifest themselves. The Pupils are generally contracted throughout the whole period.

there is profound sleep, from which the subject can with difficulty be aroused. the pulse is quick - Respiration hurried & more or less insensibility. These symptoms are soon followed by profound stupor. pulse full & slow, Respiration slow and laborer. In a short time all these symptoms are aggravated - and death by coma generally terminates the scene. The length of time required to produce death in all these cases depends on the quantity and quality of the drug - and the form - or preparation - as well as - various circumstances modifying the susceptibilities of the patient by whom it has been employed - I have scarcely time to refer to those anatomical

changes which take place after death from the poisonous influence of opium; but one, especially attracts our attention viz: the congestion of the Brain: and this fact furnishes us with the explanation why Opium is contra-indicated in inflammation of the Brain and its membranes.
The rational indications in the treatment of poison by opium, are first to remove it from the system, and secondly, to administer such remedies as will counteract the poisonous of the Drug: thirdly to keep the patient alive by means of artificial respiration &c, until the poisonous influence of the Drug had passed off.
At first we employ Emetics consisting of salt & mustard: the sulphate of zinc &c.

Next we resort to the use of diffusible stimulants. Coffee and Belladonna may be employed as physiological antidotes with the happiest results. A constant stream of cold water poured over the neck and shoulders, Galvano-Electricity and constant motion constitute the most rational means of fulfilling the indications before mentioned.

Although there are many other interesting facts connected with this subject I can do nothing more than give a general outline of the prominent characteristics of this important medicine, and to note briefly its extensive range of therapeutical application.

AN

Inaugural Dissertation

ON

Typhoid Fever

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

Harrison Clay Ward

Of

Maryland

Session of ..... 18 67.

This disease, the nomenclature of which, from its earliest history, to the present, seems to have been a question of dispute, among pathologists of all kinds, is now in my opinion, defined to be Typhoid or Enteric fever. I propose, therefore, in accordance with this nomenclature of this disease, to give a brief account in the form of a Thesis, commencing with history, ending with treatment of Disease.

Typhoid & Typhus fevers, were

for ages, considered identical in every respect, requiring like treatment &c! Strange to say, this theoretical doctrine, for it must be acknowledged, that it was strictly theoretical, was supported by many of the ablest physicians of that day, in the face of the existing, & well marked, but imperfectly understood diagnostic marks or signs — nor is this important discovery in diagnosis of such ancient date, as will be shown hereafter. Not then, until, the march of science & correct investigations, had fully proven beyond the question of dispute, the non identity, of these two diseases, could these able advocates of its sameness, be induced to yield their former convictions, & become supporters

of the present theory, which
properly considered, are widely
different as Pneumonia & Rheumatism,
a theory not unexplainable, as
was the former, in relation to
their non-essential differences,
but readily explainable upon
both theoretical & practical grounds,
— deducible as it is from well
marked signs & symptoms, not
easily confounded, with any
other form of fever or disease.
Enteric fever is a common febrile
affection, presenting in its
progress, a diversity of symptoms,
which may possibly, in its advanced
stage be mistaken for Remittent
or Intermittent fever, yet pre-
senting to the eye of the careful
physician, symptoms of a
certain recognizable character,
not easily mistaken for any

other disease or confounded with any other form of fever, however closely it may simulate them.

It is endemic & by some supposed, to be contagious & produced or generated by the decomposition of animal matter.

Symptoms of this disease may with propriety be divided into three stages.

First stage. Typhoid like, remittent or Intermittent fever is generally announced by a chill, followed by the ordinary phenomena of fever, — or it may occur, as it most frequently does in this country insidiously, the patient feels unwell, complains of headache, thirst, sense of weariness, pain in limbs, more especially about the knees, great fatigue consequent upon the slightest exertion, with

a decided tendency to drop.

Skin heated, face greatly flushed & pulse accelerated, numbering 115 or 130 pulsations per minute.

A marked symptom of this stage of the disease, more or less severe, produced by pulmonary congestion.

The appetite, generally, with the majority of authors is greatly impaired not necessarily so, however, as the contrary is frequently observed in fact the appetite instead of being impaired is greatly increased, this increase in a great number of cases being excessive. Typhoid patients recovering with impunity articles of food, which in all probability would have disagreed with them in a state of health, owing it may be to a peculiar tone

of stomach, the frequent cause of which we are ignorant – Such notwithstanding, being the case. I am aware that this statement in relation to an increase of appetite, in this disease, is somewhat at variance with the teachings of a majority of authors, but having carefully noted, this well marked feature of the disease in a great number of cases, added to the experience of many, with whom, I have conversed, in relation to this feature, I feel prepared to say, absence of appetite, is not necessarily, ~~present~~ an accompaniment of the disease in either the early or most advanced stages of the complaint. Loss of appetite is not as a rule would have us believe a characteristic of typhoid fever.

Second stage of [illegible] plague.

The disease now having advanced exhibits the ordinary phenomena of the typhoid or Enteric fever, such as brown or [illegible] black furred face, teeth & dryness of skin, pain in head, back & limbs, great thirst &c.

The pulse which in first stage of disease, numbered 110 or 130 pulsations per minute, now reaches 140 to 150 beats a minute. The pulse grows weaker & more compressible instead of full, strong & resisting, as in first stage of disease. The flush of face instead of assuming that bright colour so well marked in the early stage, now takes on a purple tint. Sometimes, however, instead of a purple tint, we notice a dusky hue or countenance [illegible] with a [illegible]

dullness of expression, intelligence
or sense, not less so in other
diseases of the brain which in their last stage
of fever, amounted to a slight sore-
ness or numbness, now become
greatly increased, together with
much anxiety & restlessness, with
occasional wandering from the love.
These symptoms, which are marks
the same, as those found in
their stage, only in an aggravated
form, continue for several days,
when the patient passes into
insensibility, we may with propriety
term the third stage, when the
following symptoms become
apparent.

Third stage.

Increased fever, pulse from
100 to 160 per minute very weak.
Tongue brown moist & clammy, now
becomes dry in this the third stage the

to come, with edges usually reddened.
Eruptions become manifest about
the third day, are colored pale, like
their appearance usually a few in
number at first, but gradually increase
in number, until the chest
becomes literally covered.
Pustules are occasionally found
upon the face, but chest,
also upon other portions of the body.
Nervous symptoms become more
decided. Delirium succeeds stupor
—tremors or twitching in arms is followed
by violent convulsions become more
violent. Watery, bilious discharges
generally present in dangerous
cases, diarrhoea a uniform symptom.
Temperature rises as eruption
appears, and remains the same as
pustoid stage, it will be
found at their highest point
continuing about the

and stomach and nucleus.

The retina of the body in which place of vision may not occur. The visual nerve substance with one of the external optic axis. The optic commissure in the ventricle, in which is readily increased in size from the nerve retained. The excellent cases the thirst is found to be small, irritable, normal sense reduced to the condition of a diseased mouth, so completely altered that the frequency of the case be punished through it. The sense is also enlarged to act, and within a short time sense the vision. The heart is also accustomed to retained duration so as to require, unlike the patient of other diseases three or five.

Other causes must be met with in this disease, as ulcerations of the throat, eligible carriage, setting of the teeth, exhalation of the sometimes explanation of the meanings of the term with causes although this latter symptom is but seldom absent. There is however in addition to the above changes one anatomical change, which is actually characteristic of this disease, which is so seldom absent that it may be considered essential - viz the affection of those minute vessels, denominated the glands or follicles of Lieut. The tonsil glands in a state of such constant occurrence, so seldom absent that it may with propriety be said always to exist, thus constituting invariably with the exhalation of the most virulent kind.

Cancer.

The epidemic from drinking or the contamination of drinking water appears to originate in persons badly ventilated habitations, such as cities. Some attribute it to contagion. This opinion has been supported by many able treatises both of Europe & America, whilst upon the other hand it has been denied by men of like ability. That it is contagious, which is very doubtful in the true acceptation of the term, it is so feebly transferred under peculiar circumstances. That the disease may be propagated under certain influences, does not admit of doubt. The inquiry, whether existing, accepting, or rejecting the two theories in regard to its contagious character so as to write contagionem in concerns. that every thing

depends upon the state of system of individual visiting patient.

In addition to the above causes numerous predisposing causes may be cited. The principal of which is age. Fever in its form of Typhoid or Enteric fever, is seldom met with in patients over thirty or forty years of age, whilst it is common at all periods of life up to that age. Typhoid, with common is a disease of youth.

Filthiness, miasmata (poisons of life - I ought to say) of weather & mental disturbances, also act as causes in the production of this disease.

Fevers miasmata in malarious districts, also act as predisposing causes or as an exciting cause - so too may decomposing vegetable substances, aid in its production, as is frequently observed in malarious

Attack.

[illegible] having caused, may be classed, as
intense Irritation of a
part of many patients, and classed
in some measure to the gouty,
tubercular & rheumatic predispo-
sition.

Diagnosis.

The characteristic symptom
of the disease, is the mode of
attack, the patient moving to
bed, apparently in good health,
experiencing very little inconvenience
save a few slight pains in limbs.
Appetite contrary to the trac-
ings of the toes seldom attacked,
if affected, rather increased than
diminished. These symptoms
continue for several days, when more
marked symptoms become evident, the patient being attacked

with Leanness, a wet mouth & an
adhesive of the tongue, with a
dull, heavy expression of countenance
a sickly hue of face, with a tendency
to phthisis, a slight cough frequently
in severe cases bronchial tubes,
great dryness of tongue & general
diminution of all the secretions.

Then we have the rose colored
condition, Sudamina, dryness of the
Scleroma, tympanitic abdomen &
enlargement of testes, frequently
sensible to the touch or discoverable
by percussion, together with the
Sundon of the disease.

All the above mentioned
symptoms, are not necessarily present,
the absence of a few, however, not
preventing us from making out a
true diagnosis. Some of the
symptoms herein described must, or
in general the one be absent, yet

a sufficient number, will be found to enable me, with a little tact, to arrive at a correct opinion, as regards the diagnosis of this fever from all others, however it may simulate them.

One of the diseases, with which this fever, is frequently confounded is Remittent fever. The distinction between these two forms of fever is quite apparent, when we take a survey of the case & enquire into its history. For instance in Remittent fever, we have well marked remissions which is not the case in Typhoid fever. I do not say there is not a remission or abatement of fever even in Typhoid or Enteric fever. I am well aware of the fact that there is a well marked abatement or remission of fever in Typhoid cases. This

difference in detailed symptoms between Typhoid
& Enteric fever difficult to say.
That which occurs in Typhoid
never in point of regularity &
degree. The eruption in Typhoid
fever, the remission is quite distinct
& occurs at regular & stated periods,
whereas in Typhoid or Enteric fever
such is not the case. The remission
is probably speaking the decrease
occurring at any time point or
degree not so well marked as in
Typhoid fever. The tongue is a
matter of small importance, so far
as regards the diagnosis of Typhoid
or Enteric fever when compared with
other & it may be said that characteristic & pathognomonic signs of the
disease. In Typhoid fever
there is great delirium at
first, the patient is quiet & in
a dazed & stupid condition

consider which not the case
in the said case. In the contrary
instead of the skin in syphilis
retracted, presenting a rather thick &
irregular & ducky surface.
Much more might be said in relation to the diagnosis of these two diseases, but I am anxious to point the marked difference between these two diseases even in their closest resemblance. I will allow the present matter explanation of these marked difference to suffice to the diagnosis of Syphilis & Cancer more particularly. For this skin in the 1st instant of diagnosis, the question is easily included to a scirrhus or indurated which together with ulceration, proved contrary to the teaching of many writers of note both of Europe & America that

Typhoid & typhus fevers are not
in any sense identical, but under
different & not more so than are
so-called typhoid & typhus fever is
different from Intermittent fever.
A marked difference exists in
mode of attack between typhoid
& typhus fevers, typhus & typhus
fevers commence more acutely than
typhoid fever
& is of shorter duration, it seldom
lasting longer than twenty or
twenty one days, whereas typhoid
or enteric fever lasts at least, that
days if not a longer period of
time. In typhus the rash
consists of a mulberry looking
eruption between the eighth & eight
days & lasting until the termina-
tion of disease, the skin
at same time presenting a dusky
& mottled appearance.

In Typhoid fever the eruption is formed of rose colored dots or spots, coming out between the seventh & fourteenth days, making their appearance in successive crops & gradually fading & vanishing, every two or three days. In Typhus, instead of diarrhoea constituting a diagnostic mark as in Typhoid fever we have constipation. Hemorrhage from bowels frequently present in Typhoid fever never present in Typhus.

Among other diagnostic marks existing between the two diseases, may be mentioned the season of the year at which the two fevers are most likely to occur, thus Typhoid, occurs most frequently in the fall & winter, whilst Typhus occurs generally during in winter & spring.

Typhoid fever is endemic, rarely
epidemic & not contagious, in
the true sense of the word.
Typhus fever prevails as a
general thing, epidemically,
& most assuredly contagious &
may be communicated to
those, whose constitutions are
not in the slightest debilitated
or impaired.
Prognosis. Whilst in this country
Typhoid fever is considered a
severe disease, it is nevertheless
not a fatal malidy. Judging
however from statistical reports,
it is certain that on some
occasions it is exceedingly fatal.
Thus in hospital practice, it
may be considered more dan-
gerous, than in private practice,
being due in all probability
to the crowding of large numbers
in small & poorly ventilated wards.

Agreeably, with the blood few diseases exhibit more readily, the controlling influence of medicines than Typhoid fever — for this reason the prognosis, in the majority of cases, unless complicated in some way, may be said to be favorable.

Treatment. The treatment of this disease, is in many respects, the same as that in Typhus, with, two or three exceptional points. Where patient is first seen, emetics do good. Vini Ipecac Zi repeated every twenty four hours, for several days, exerts a beneficial influence. Quinia Sulph, given in large doses, in the early stage of disease, is suspected by many to be of service, believing as they do, that it has the power to cut short the disease. That Quinine does good in

the early stage of [illegible] does not admit a doubt, and accomplishing the good influence by exercising what some may call abortive effect, but merely as a term, does it exert any influence on the early stage of this disease.

Aperients should seldom be given, as in all probability, the bowels will act spontaneously, if not, will a decided tendency to diarrhoea.

Yet it is thought advisable even though a moderate looseness of the bowels be present, to evacuate their thoroughly, in order to correct or obviate the injury arising from the contact of any irritating matter which may be present with their lining membrane. For this purpose we employ small doses of some mild aperient, such

as Magnesia Sulphas or Rhei.
If there be at the same time
much irritation, Oil would serve
better purpose than Magnesia
- in fact in this disease where
intestinal irritation is present,
Oil should be required to all
other purgatives.
Suppose there be present accom-
panied with diarrhoea, then add
to the Oil, Tinct Opii gtts xx.
3 The state of bowells must be
carefully attended to throughout
the complaint, remembering that
no aperient will be required
unless, as is sometimes the case
the evacuations are scanty & sometimes
wanting, which condition be it
remembered is of rare occurrence.
If a full meal should be used
to procure at least one full diseh
arge daily, remembering that

a purgative must be given in
minute doses, would be indicated
such an instance as acidity
in order to [illegible] as
[illegible] as is frequently the case, great
caution & discretion be observed.
I suggest would answer a
better purpose than either the
Oil of Peppermint, by way
of correcting the acidity but as
for present. Either of
or any of these combinations are
well adapted in a short case.
in the advanced stage, wherever a
purgative is required.

The bowels having been evacuated,
the next indication is to obviate the
febrile symptoms, but not in my
opinion, in accordance with the
theory taught by some & practiced
by others, not in accordance with
that doctrine inculcated by some

of our great minds, who debilitate rather than sustain, pull down rather than build up, — not in instance in accordance with the theory of one of our greatest minds who says "if the subject be full & strong & active congestion or inflammation of the brain or any other vital organ be present, blood must be taken from the arm to the amount of sixteen or eighteen ounces repeated if necessary." Now in a thousand cases, how often would congestion of so formidable character take place; probably one, for it must be remembered, by blood or Entire foetal departure from beginning to end, consequently in the majority of cases, with which we daily are brought in contact, we would seldom see the rich and [illegible]

of consultation [illegible] never
[illegible] called a [illegible] as the
advocates of [illegible] and
treatment would have us believe,
an objection to experience & reason.
Typhoid fever never calls for
depletion, except in cases so rare,
that they seldom come within
the scope of conjecture. On
the contrary instead of depleting
it will be found necessary to
husband the strength of typhoid
patients from the beginning to
the end of disease, knowing as
we do, that the true nature of the
disease, - moreover being aware of the
fact, judging from statistics, that
out of ten thousand cases depletion in
Typhoid fever, finds an advocate,
does the disease prove fatal, while
depletion is now strongly condemned
in practice of the past, rather than

a theory of the treatment.

At this stage of the disease if diarrhoea be present, as is generally the case, due attention must be paid to the bowels, the diarrhoea must be arrested, — for this purpose we employ astringents combined with Opium or Ext Hyosc. Of the class of astringents, Catechu, Krameria or Tellis seed will be found most useful, remembering that whichever we use of the astringents, we should not forget Opium or Ext Hyosc, in combination therewith, in order that the intestinal irritation, invariably present, may be allayed. If there be an hæmorrhage from bowels, scarcely any medicine will be found of such signal utility as Tellis seed & Opium

with the application of cold over abdomen, at the same time freely administering stimulants in order that the patients strength may be supported.

The following prescription, given by the late Prof. Samuel Thew will be found of great service in the beginning of typhoid or Enteric fever.

℞

Vini Rubri ℥j

Tincturae Cretae ℥ij

Tr. Ol. Camph ℥j

Mucil ℥ss every two or three hours until checked.

At this stage of the disease small doses of Sulphuric acid will do good. Diaphoretics will be found useful throughout the complaint, such for instance as Liq. Ammoniae Acet, Potassae Nitrat.

Spts Ammoniæ Citratis or Spts Æther
Citratis, one of the best of our
diaphoretics. Solutio Citratis Potassæ
in Aquâ Cl, may be given freely
as a cool, refreshing drink, when
the fever is high. Solutio Citratis
is thought by many Physicians
at the present day, to be subservient
to all other medicines in the
treatment of Typhoid, or Putrid
fever, they using it in a greater
number of cases, than any other
single medicine, frequently
relying upon it solely.

In case of great restlessness
at night, it is well to give a dose
of Opium, provided, no contraindication
exist or subsequently, to remain steady
in 2 to 3 hours, repeated if necessary
to quiet it.

Among the many medicines
to be of great use in this

diseases, must be mentioned the Sulphites & Hyposulphites of Soda & Magnesia. When the Sulphite of either Soda or Magnesia is prescribed, it should be given in doses of ℥ss to ℥j every two or three hours during the day, so that ℥j may be taken during the twenty four hours. This plan of treatment with the Sulphites & Hyposulphites is highly recommended & not more highly, than my Father, & Brother W. Thomas, who have tested the plan of treatment, on several occasions to his entire satisfaction. In giving either the Sulphites or Hyposulphites they must be given in a large quantity of water, in order to be more speedily absorbed, & thus obtain more speedily, obtained.

evacuation I would say, is highly recommended, or Opium used during its latter stage, upon the ground that it forms a constituent of the body, thus supplying the amount of food necessary to commencable, or the loss of tissue, constantly going on. With this theory in regard to the action of Acid Nitric in Typhoid, or Enteric fever, we have nothing as yet to be established. Nitric Acid is however frequently employed in this disease with great benefit, the action upon the system be what it may.

Should the symptoms not yield, under this treatment, should the tongue become very clean & great prostration of strength, then we have to admit in good earnest the stimulating plan of

treatment. Nor indeed is it prudent to postpone stimulation. In my opinion, hundreds of patients are daily lost by not commencing to stimulate at the proper time or period of disease & when commenced, not carried to the degree that it should be. The time at which we should commence to stimulate can only be learned at by carefully noting the progress of the disease. The observance of the following rules, will enable us with a little tact & discretion, to determine at what time to commence stimulation, whether it be Brandy, Wine or Alcohol.

If tongue becomes dry & baked, it does harm — if moist it does good.

If pulse becomes rapid, it does harm — if reduced in frequency it does good.

If skin becomes dry & parched it does so — if moist it does good.
If breathing is hurried & restless is increased, it does harm — if the breathing becomes slower & restlessness is diminished it does good.
The observance of the above rules will be found of great service will aid us materially in the proper & timely administration of stimulants, whether the stimulant be Wine, Brandy or Alcohol, remembering that these three principal agents of the class of stimulants, although powerful for good when judiciously employed, are unlike potent for evil when used unwisely. We must therefore, prior to resorting to stimulation, too quickly, as is generally the case, be sure that the system requires it.

among the class of stimulants Brandy will be found superior to all others, when properly used. In the advanced stage of the disease, when there is, as is invariably the case great prostration of the powers of life, whichever of these principal stimulants we employ, Alcohol, Brandy or Wine; we must use them freely, yet judiciously, having as I before remarked, an eye single to the wants of system.

Oil Turpentine has been highly recommended by some more highly, than Dr. Hood in his plan of treatment. The following prescription will be found of service in Typhoid or Enteric fever, more especially, in the advanced

stage, when accompanied with prostration, tenderness upon pressure in abdominal region.

℞
Ol. Terebinthinæ ℥ss
Tr. Gentianæ Comp ℥iss
Mistura Acaciæ ℥i.
Inf. Serpentariæ ℥v
Sumat. ℥ss every four hours.

Hygienic regulations.

Proper temperature say 60° or 65° F.

Food must be given in proportion to want of system, dependent as the want of system is, upon waste of tissue avoiding the old precept or doctrine, that food increases waste since Physiology teaches, that waste is not dependent upon stamina

patient, but on the contrary food in proper quantity must be given, in order that the system be sustained & this excessive waste of tissue consequent upon disease may be counterbalanced.

Among the many remedies applied topically, Turpentine stupes will be of service by way of correcting the tympanitic, which is invariably present.

Cold or moderately cool ablutions to surface, repeated three, four or five times a day, will be found of service, the legs, arms & temples preferable, selected as the points or parts, upon which these ablutions be made.

Finally, Typhoid or Enteric fever, should be treated on the expectant plan, which after all that has been said on the subject; is the only true & successful plan of treatment, the only plan, so far as any plan goes, worthy the consideration of the true physician, at the same time being careful not to do too much, for fear by so doing we may thwart the efforts of nature, remembering that it is equally, as injurious to do too much, as it is to do too little.

The prudent physician will therefore, in the treatment of all diseases, Typhoid or Enteric fever more especially, conscious as he must be

of the fact, that medicine is
but the handmaid of nature,
in this disease, not be unmind-
ful of that grand old maxim
"Vis medicatrix naturae", a max-
im, the observance of which,
will guide us as safely, in our
treatment, as the compass
, amid the heaving of old
ocean, dictates the course of the
mariner — a maxim the dis-
regard of which, suffering human-
ity, but too frequently, pays
the penalty, at the cost
of life.

Let us therefore, not be
unmindful of the fact
that in all fevers, more
especially, in Typhoid or
Enteric fever our aim must
be to guide, conduct & not
thwart nature's efforts.

In conclusion, whatever plan of treatment, we adopt let it be conservative, i.e. in accordance with the requirements of the disease, laying aside our stated formulæ & stereotyped prescriptions & treat symptoms as they appear & complications as they arise.

Respectfully submitted.

H. C. Ward

AN

Inaugural Dissertation

ON

Typhoid Fever

SUBMITTED TO THE EXAMINATION

of the

Provost, Regents and Faculty

of

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of the

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of

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Typhus Fever

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If we consult the history of practical medicine, it will be found to consist of little else than a series of the doctrine that has successively risen and sunk again concerning the nature and treatment of fevers; notwithstanding the many other objects of interest and importance within the dominion of medical science, which have attracted the attention of physicians, fever has been at all times viewed, as presenting the most inviting field for observation, and the exercise of ingenuity.

It is in this department that observation and research have been most industrious in accumulating materials, and that hypothesis has luxuriated in her wildest speculations. When indeed, it is considered that the destroying Angel has made his most formidable visitations under the form of febrile syndromies; and that in the long list of human maladies fever occurs in perhaps nine cases out of ten, the paramount importance of this subject is forced upon our consideration: A retrospective glance over the

history of our science, forces us to acknowledge, that there is perhaps no subject that is more eminently calculated to humble the pride of human reasoning than this one.

In relation to this subject pathology has been in a continued state of revolution and instability. Theories have risen and sunk again in a continued and rapid succession of succession; each has had its hour to stand upon the stage, and it obtained to yield it's faith, but the stream of time has hitherto overturned all these insubstantial theories often highly wrought fabrics;

"Has medical thought made no real advancement in relation to the pathology of fever? Have we now no more correct medical views concerning this important subject than were our forefathers? Has genius always wandered in idle quest, and brought back no substantial trophies from the regions of pathological speculation on this point?

"Far from it; the human mind is continually verging towards truth, and it is my opinion that the day is not far distant when it will reach it concerning the essential nature of fever;

There has probably never been a theory or doctrin promulgated on this subject which did not remove some former one, or bring to full view some of the relations of the phenomena it presumed to elucidate;
The dream of speculation is now discarded, but the facts and correct principles, which were necessarily mingled with them, remain as so much valuable treasure saved out of the wrecks of former systems.
The mass of solid materials which has been thus gradually accumulated has now in a

great minds displaced those vague, and hypothetical grounds upon which former doctrines in relation to this subject were conducted.

Hypothesis is no longer tolerated in science: philosophy does not acknowledge her as a legitimate servant; the reign of her empire has gone by, and the genius of rational induction is now the only power under whose direction, the votaries of science press forward to conquest in the fields of knowledge.

I have not attempted a strictly correct and unobjectional definition

It is a fact acknowledged by all clinical teachers and learned pathologists of the present day that there is not a single symptom which is invariably present, and which can be regarded as absolutely essential to its existence

The doctrines on this subject have been as variable as they are numerous, and there is not one that will admit of an absolute and positively demonstrable proof. The human body like all others, is capable of being acted upon by physical agents, and the result, not the mode of their operations,

it all that we know, and the senses are the means by which we are apprized of them. As these instruments discover only certain phenomena without apprizing us of the subtle changes which the system undergoes, and by which they are produced:

"All that can be said is that the phenomena are all that we know: and that the true philosophy of medicine, is to describe their successions, with the means of their prevention and cure:

This it can do but it can do no more; As in natural philosophy it is impossible to determine the

nature of causes on which hang the laws of vital science; so in medicine, the intimate properties of life are equally inscrutible. Whether or think that the ideas or words, contained in the following words present a true view of the subject of fever, and on which it like from hypothesis, and admitted with out but philosophy: Fever is a disease which affects the system, it affects the head the trunk and the extremities, the circulation the absorbents, and the nervous system it affects the muscles and the membranes it affects the bowels, and likewise the mind;

It is true on a dissection of the whole system, which however [illegible] engaged at one time one part at others another.

Having premised these remarks I proceed in general in order that my lesson which is upon one of the special severs may be more intelligible:

I proceed at once to treat of that terrible malady syphilis or "White like a blemish destroying so many of the human race, and which just such views as I have been able to collect from personal observation of cases which occured in the

Baltimore [illegible] and
Smithsonian Museum
[illegible] reading the
best work on the subject.

According to Flint the history
of [illegible] in eastern antiquity,
and the only diseases which
[illegible] or a differential diagnosis
is typhoid [illegible] diseases
have many features in common,
[illegible] and identical, the two diseases, have
[illegible] yet a marked
question, but the points of [illegible] that
are sufficiently well defined to
show that they are distinct

1.

diseases, and are recognized as such by the best authorities of the present day.

Typhus fever has no special anatomical lesion peculiar to itself, but certain morbid appearances found by post mortem examination may be due to some accidental complication with or the actual presence of some other disease.

"When considering its effect upon one of the organs of the body, namely, the spleen, it might be contended with Intermittent fever, but as the principal disease from which it is to be distinguished

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in typhoid fever, I will endeavour
point out the chief signs of disease;
In the first place it is a short
duration in all its stages, & a mere
over does not present the same
morbid abdominal characteristics,
"namely ileac tenderness, gurgling
retraction, diarrhoea &c. it
sometimes assumes diseases;
The function in typhus is of a
dark colour, & very offensive
than it does in typhoid fever,
it is marked & does not
diminish on standing;
Whilst in typhoid it is pale
in appearance, exhibits itself
in little or no spots, & is

his opinion that in the above
diseases:
Gonorrhoea has run the maximum
+ patient dose is are combining
and we in time to demonstrate
which is the curing measure;
In the case of the styes; the
diagnosis being correct we pass,
as the character of the cutaneous
affection is concerned, to that which
was practically eliminated under
my own observation during the
prevalence of the disease as an
epidemic in this house.
Dr. Hunt whom I take as the leading
authority on this subject being
the most recent in his writings

ascribes contagion to typhus,
while he considers it absent in
the other; and the history of the
cases to which I allude, seem to
corroborate this statement;
There are other signs which might
be enumerated, but I shall only
condense such facts as would
under ordinary circumstances
enable one to make a clear and
unequivocal diagnosis;
The cutaneous eruption seems
to be the principal land-mark
for physicians; and when this
is lost there is as a matter of
course much embarrassment.
It has been affirmed by some

that a further aid to the diagnosis, consists in the peculiar odor which emanates from the patient, a fact of which I am personally aware, from individual observation:
The pre-mature of the pulse is much increased in this disease, even beyond what it is in typhoid; At this instant my memory brings before me a remarkable circumstance as regards the pulse of a patient laboring under this disease; which fell from 115 to 70 in less than twenty four hours, but from that time convalescence was established.

and the man gradually recovered
his original health;
The thermometric heat is also
much exagerated varying accordi
to the distinguished authori.
to whom I have referred from 96°
to 104° Fahr. In the cases treated i
the Infirmary the thermometer
indicated a temperature of 108°.
The heat is increased in proportion
to the violence of the disease
and vice versa.
The general aspect of the
patient is very marked,
so much so that the constant
observation a physician is able
to distinguish the character

of the disease from this feature alone:

The tongue becomes covered with thick coating of black or brown, a symptom which does not exist to a great extent in typhoid accompanied with sordes; epistaxis occurs frequently during the more severe stages of the disease. The duration of typhus is less than that of typhoid, but a relapse occurs frequently, it is, and are not so numerous, and when occurring are at a general rule of not so severe a character as those of typhoid; bedsores rarely occur in

the brevity of the disease;
and what other complications
ensue such as bronchitis or
pulmonic gangrene, but the
the most prolific and obstinate,
pneumonia, may be attributed
to immutation, which latter is
is considered as one of the
primary causes of the disease.

Males seem to be more liable to
contract the disease than
females; and the fatality to
be less in youth than in adult
age.
After 30 years the fatality pro-
gressively increases and after

50 years the proportion of deaths
is nearly one half.

The principle is clear. The cause
may be due to bad
and to insufficient nutrition as a
consequence together of over
health and clothing
seems to depend a principle
which pervades the disease:

this should suggest a hygienic
and particularly dietic course;
namely, the abundant supply
of nutritious food and pure
air, which tend to counteract
the malady: a fact which has
been proven in the opinion

of physicians in N. Y. who discovered that when typhus patients were removed from the wards of the Hospital to tents out of doors the mortality was very marked.

And the same result was observed here, for whilst the mortality was formerly great in the wards of the Infirmary; but a single case terminated fatally which was treated in the tent, under exactly a similar medical course the remission being also the same.

Another fact which recommends itself to our consideration as demonstrating the new identity of the two diseases is the distinctly specific character of the miasm generating respectively typhus and typhoid fever.

This fact has been clearly shown by Jenner, and others in the London fever hospitals as recorded by Dr. Stark. And out of 160 cases in a given area, one only was typhoid; and of 61 cases in another not one was a case typhoid.

Various views and theories might be presented upon this subject, & opinions as they do from the brain & men eminent in the medical profession; by no means unobjectionable among whom might be mentioned the name of Dr. F. Chambers: but to Embrace all of them would be an infinitisimal task; and so having presented the principal pathological characteristics which exhibit themselves in this disease, together with proof of its nonidentity with other diseases with which

it seemed analogous until within a very recent date.

It will now be my province to take up its treatment; though there is no very marked difference in the treatment of any of the essential fevers, all requiring a prescribed period for their course, rendering it necessary for our plan to be somewhat of an expectant one, still there are some points which stand forth more prominently than others adapted to each one, and consequently demand

our attention
to the majority as it ought
to rest upon a just and
equal glance of the young
physician to observe the
various theories and opin-
ions advanced by the
best authorities, and
the various results of the
same treatment, and the
same management, yet
when he is able to com-
prehend the mysteries of
the Science: Having now
viewed the vital principles
and Pathology of the
is clear, he must and

interest are lent to the
subject; the old feeling of
despair and lack of confidence
as regards the benighted condition
of mankind, is dispelled
at once; and we proceed
to do our work with renewed
enthusiasm, and like the
Israelites of old guided
by a cloud of fire, the
cloud of hope and confidence
bright as the morning star
stands forth as a heaven
light guiding us to the
haven of eminence and
renown.

The treatment is based by some

upon the supposed subacidity
of the blood, and upon which reason
the acids are recommended.
During the heat of the fever the
tr. digitalis, Ten in a cup of
tea towards this [illegible], I have
had no experience, but believe
it to be a very valuable angelic
measure in the treatment of
typhus. Chamber having his practice
upon the hypothesis that the
poison is imponderable or im-
ponderable is associated with
imponderable agents, knows
emetics in the onset of the
disease, with a view of eject-
ing the poisonous material or
immaterial as it may be called

from the stomach, & a
own observation has convinced
me that this combination
and the most beneficial result.
The acid, & the Elixir pepsin
partly prepared in the
Laboratory; and during the
white stage, having the old
remedy and additional new
new; the patients suffering and
mourning as much as the
machinery of their systems
would assimilate.

Respectfully submitted by
F. Linden White