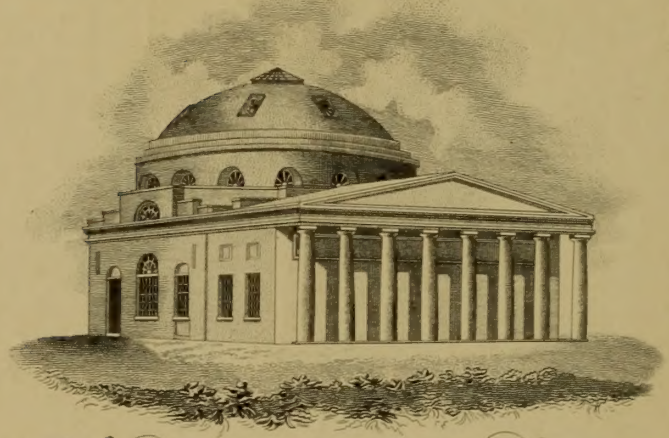


University of Maryland Press

Early Practice of Medicine and Dentistry in Maryland: Transcriptions with Contextual Essays and Glossary

These manuscripts identified as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1812-1844. The inaugural dissertations were bound together during the 1840's. The original order of presents for the bound volumes, contained no dates or at most a month, year, and/or years. To address these errors, a chronologic order of the manuscripts has been imposed at the beginning of the 21st century.

The project team who investigated and transcribed the handwritten manuscripts were Richard J. Bellera, Historian, Library of Congress; Michael Malagrino Dreher, Manuscript Management Librarian, Angela Contreras and Carol Darling-Henry, Resources Division; Susan Herman, Alice Schaar and Margaret Wolff, Services Division.

These dissertations were digitized in 2011-2012 and are available at the UM Digital Archive (archive.lib.umaryland.edu) and the Internet Archive (www.archive.org).

University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

The project team who investigated and corrected the tables of contents were Richard J. Behles, Historical Librarian/Preservation Officer; María Milagros Pinkas, Metadata Management Librarian; Angela Cochrane and Carol Harling-Henry, Resources Division; Sarah Hovde, Abra Schnur and Megan Wolff, Services Division.

These dissertations were digitized in 2011-2012 and are available at the UM Digital Archive (archive.hshsl.umaryland.edu) and the Internet Archive (www.archive.org).

(CORRECTED TABLE OF CONTENTS)

UNIVERSITY OF MARYLAND

THESES

1875 (c)

Author	Title	Notes	Physical conditions
Thomas, Richard H.	Delerium Tremens		
Harrington, J. Oliver	Scarlatina		stained
Hudson, George W.	General Anaesthesia		stained
Chamberlayne, C. Eugene	Six Cases		
Smith, Richard H.	Cardiac Valvular Lesions with Enlargement of the Heart		stained
Fiske, John D.	Chronic Hydrocephalus		stained
Beach, William B.	Typhoid Fever		
Jones, Silas	Opium		
Stevens, N. C.	Acute Pleuritis		
Wilhey, William B	Modus Operandi of Medicines		stained
McDevitt, Edward P.	Cholera Infantum		
Hahn, Samuel	Diphtheria		stained
Truitt, George W.	Typhoid Fever		stained

Author	Title	Notes	Physical conditions
Heffenger, Aruther C.	Functions of the Liver in Health		stained; legal paper-pages folded

UNIVERSITY OF MARYLAND

THESES

1875(c)

Thomas, R. H. (Richard)	Delerium Tremens	21p.
Harrington, J. O. (Oliver)	Scarlatina (water marks)	32p.
Hudson, G. W. (George)	General Anaesthesia (spots on first two pages)	40p.
Chamberlayne, C. E. (Eugene)	Six Cases	45p.
Smith, Richard E. (H.)	Cardiac Valvular Lesions with Enlargement of the Heart (water marks)	43p.
Fiske, J. D. (John)	Chronic Hydrocephalus (water marks)	52p.
Beach, W. B. (W. Lewis)	Typhoid Fever	25p.
Jones, Silas	Opium	14p.
Stevens, N. C.	Acute Pleuritis	19p.
Wilhey, Wm. B. (William)	Modus Operandi of Medicines (water marks)	20p.
McDevitt, E. P. (Edward)	Cholera Infantum	19p.
Hahn, Samuel	Diphtheria (water marks)	20p.
Truitt, Geo. W. (G.)	Typhoid Fever (water marks)	30p.
Heffenger, A. C. (Arthur)	Functions of the Liver in Health	50p.

pages are long & folded (water marks)

A Thesis

on

Divine Ideas

or

Sir St. Thomas.

Presented

in candidacy for

the degree of Master of Arts.

32

Delirium Tremens

[illegible] one article in the materia medica more frequently used than Alcohol, and few if any are more potent for good if judiciously employed [illegible] appetite, [illegible] the [illegible] [illegible] Hence has been the misery and the curse of thousands.

I do not intend now to write, at this time, upon this [illegible] in its moral aspects or its therapeutical applications, but will confine my attention principally to one of the many ill-effects

con[illegible] upon the [illegible]
[illegible] of the story.

Before considering the [illegible]
[illegible] [illegible] [illegible]
a few words upon the subject of
[illegible] [illegible] [illegible]
[illegible] [illegible]
[illegible] authorities, when the [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible] the [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible] of the [illegible]
[illegible] peace. [illegible]
[illegible] [illegible]
[illegible] [illegible] the
[illegible] [illegible]
[illegible] the [illegible] of

[illegible]

[illegible] of [illegible]

of the [illegible] is defined as a

legal [illegible] to the [illegible] of [illegible]

[illegible] of [illegible] the

[illegible] that [illegible] [illegible] of [illegible]

[illegible] [illegible] [illegible]

[illegible] [illegible] [illegible]

[illegible] [illegible] [illegible]

[illegible] [illegible] [illegible]

[illegible] [illegible] [illegible]

[illegible] [illegible] [illegible]

[illegible] [illegible] [illegible]

[illegible] [illegible] [illegible]

[illegible] [illegible] [illegible]

[illegible] [illegible] [illegible]

[illegible] [illegible] [illegible]

[illegible] [illegible] [illegible]

[illegible] [illegible] [illegible]

[illegible] [illegible] [illegible]

[illegible] [illegible] [illegible]

[illegible] [illegible] [illegible]

[illegible] [illegible] [illegible]

[illegible] [illegible] [illegible]

[illegible] [illegible] [illegible]

investigations by [illegible] and

[illegible] have [illegible] to a [illegible]

be made [illegible] from this.
Also we see that Sensation is not
a mental following upon [illegible]
[illegible]. [illegible]
[illegible] a [illegible]
movement of [illegible]
[illegible]
[illegible] continued until the
[illegible] the [illegible]
tion is not a [illegible], but (it [illegible]
[illegible]) the [illegible]
[illegible]
[illegible]
[illegible] the [illegible]
[illegible]
[illegible] of this [illegible]
[illegible]. What is the [illegible]

[illegible]

After a long & whole hour the
[illegible] of Lockhart passed by & not
it succeeded by [illegible] of [illegible] and
[illegible]; so in the [illegible] the
[illegible] & dark [illegible] [illegible]
& the narrative the result of her
[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]
portion of the dose, which was in the stomach had been absorbed. This is the explanation which I am disposed to accept.

I have considered it necessary to dwell upon this point thus at length because it seems to me to have an important bearing upon the pathology & the Diagnosis - Prognosis, Treatment &c. of Delirium Tremens.

2. Causation of Delirium Tremens.

Of this disease there is but one exciting cause - and that is the excessive use of Alcohol in some form or other, some preparations of which being more liable to produce

than others. The [illegible] of the
disease in question, however, [illegible]
upon the natural temperament [illegible]
the individual is exposed. Thus [illegible]
[illegible]
[illegible] one man [illegible]
[illegible] of [illegible],
[illegible] another may suffer no such
effects whatever". There is scarcely
[illegible]
[illegible], the cause of which is more
[illegible]
[illegible]
[illegible]
[illegible] as is often met [illegible]
the case of any. Truly certainty
[illegible] most impossible in the sc [illegible]

[illegible] — [illegible]
[illegible] — [illegible]
[illegible] [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]
voluntarily [illegible] the use of [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] them, being inconsequence [illegible]
[illegible] [illegible] [illegible]. It is
[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]
and among those [illegible]
[illegible]. "On the other hand," he continues,
[illegible] [illegible] [illegible]

the continued use of the Intoxicants amount of alcohol. These statements are however, very [illegible] cases [illegible] dicted by other diseases. For instance Dr Tanner, of London states that in the Inebriate Asylum where there, who have been accustomed to the habitual use of intoxicating liquors, are at once entirely deprived of them, there are no symptoms of delirium tremens among the patients. Dr Shew, of the Hydropathic Establishment, Malvern, coincides with this view of the case, saying that the disease is most apt to attack persons while they are still apparently in their determined.

But we find a [illegible] [illegible]

and, granting that the
both sides are honest, we must
explanation to account for such [illegible].
I think that the latter explanation is the
correct one, and for the following reas[illegible]
the first place Dr. Hunt takes it for granted that
because a man has cured [illegible] inebriety [illegible]
that the selenium that supervenes must be [illegible]
assume the withdrawal of the supply, a prom[illegible]
example of "post hoc, ergo propter hoc." [illegible]
that as the drug is to all intents & purposes [illegible]
of his organism, so long as it remains in his stomach,
the selenium is not on account of its disappointment
of the alcohol, but from its continued absorption
from that organ. And this is to my mind the
only tenable explanation, for [illegible]
[illegible] [illegible].

[illegible]

treatment of the disease is as follows

see

Symptoms and Poisons. It has effected

Taken in very large dose it may at

over power the whole nervous system & [illegible]

produce instantaneous death. But in

other cases, there are those of [illegible]

nitrog, we have developed Delirium [illegible]

the symptoms which are as follows

The patient is [illegible] and [illegible] with

an [illegible] gait. There are [illegible]

muscular tremors, especially in protruding

the tongue. There is pain in the [illegible]

[illegible] is flushed and the [illegible]

[illegible] The pupils dilate [illegible]

[illegible] at first [illegible] and [illegible]

turbed. The mental condition is that of extreme depression. As the disease advances the despondency of the mind is much more marked, he feels becoming distrustful of his friends. His imagination conjures up the most absurd and distressing thoughts and objects before his vision, he [illegible] [illegible] before him that [illegible] [illegible] [illegible] to the voice in these [illegible]. He thinks that all sorts of loathsome creatures are crawling about him in the bed. He is frightened with these unreal objects. He is apt to imagine that he is at at his ordinary employments. His reasoning engagements [illegible] at times the delirium is [illegible] that a stranger [illegible] [illegible] [illegible] but generally it is easily controlled, and [illegible] confined attention. The most prominent symptom is Insomnia. Anorexia continues and the [illegible]

complained the stomach is cold pulse is feeble occasionally under mental excitement. The patient often declares that he is well. If the disease pursues an unfavorable course the symptoms increase, also the delirium pulse fails and pass the pupils sometimes show insensibility & light and death supervenes by coma & exhaustion. If the disease had turned favorably the first favorable sign is that the patient falls into a refreshing sleep which appears to have a short by marked influence on this complaint. Rapidly involving the vital powers free from delirium and on a fair exertion recovery. Prognosis Diagnosis Distinguish these cases in which the patient has been or has had bowel see or see. Beyond the discovery of blood in the urine and its contents this repeat

[illegible] of special interest. The severity of the cerebral symptoms will be in the principality to the encephalon. The stomach and the intestines are often influenced. Prognosis. As a rule this is easy, as the known habits of the person, and the fact of his recent illness together with the cerebral symptoms point to this disease exclusively. In cases where we are unable to obtain any authenticated history the smell of the breath is a good criterion, and cases of [illegible] need be concerned. Meningitis is to be distinguished by the presence of the remarkable uneasiness, especially in pressing the temple, the intense head-ache, intolerance of light and sounds, throbbing of the carotid, [illegible] in meningitis. The phosphates are diminished in urine, while in uremic fits there is increased activity [illegible] by the absence of urinary [illegible]

[illegible]

[illegible] recurrent [illegible]

[illegible] course [illegible]

accidents or surgical operations before or at [illegible]

[illegible] difficult to decide [illegible]

without treatment

seldom

even an ordinary remedy

necessarily increase

stimulant effect

use it. The so-called

Digitalis in large doses

recommended

others have carried his treatment to a fourth ounce of the tincture every three hours. Fifteen drops have been taken, then if the patient is not calmed, or sleep has not been procured, two drachms more of the medicine are given every three or four hours. In speaking of this drug Dr Bergs says that he has had cases that have invariably relied & recovered under this treatment, though death seemed impending on account of prostration. He thinks it good also in some typhoid forms of this disease. Dr Y. has cases died suddenly and unexpectedly after the administration of this drug. Sudden death however at times occurs in delirium tremens with no apparent cause. Dr Dunglison states that he has tried it on these large doses, but he does not feel encouraged to repeat the experiment, on account of the unpleasant though not fatal results.

[illegible] too violent one to be employed in most cases, especially as the disease, as a rule, [illegible] and recovery of itself and mild remedies are generally sufficient. [illegible] drastic resort, however it would be well to employ it. In very weak subjects of the disease I should generally make use of it, though the cases of Delirium Tremens to which it is most applicable are not [illegible] Proven Seeds of infection is a very offensive smelling [illegible]. It is not a depressing agent to the vital powers of the patient and produces sleep of a quiet and natural character. From fifteen to twenty grains may be given every few hours till [illegible]

[illegible] about. In such cases this & all other
[illegible] expensive drugs & medicines. Sulphonal &
Chloral is sometimes employed with it in the
[illegible] twenty grains, when the Bromide alone
is insufficient. This drug has by many been hailed
[illegible]. It requires caution in its use.

To sum up - I would follow the ordinary plan of
treatment. Mitchell & Powell advocate the
use of Alcohol - whether the patient be a hopeless
[illegible] or not. Opium perhaps not quite indispensable
but are easily digested. I would be cautious
in using opiates, atropine & stimulants either of
Alcohol or Ether - though in cases of great depression
[illegible] should be used. Give Bromide of Potassium
& if necessary Hydrate of Chloral.

I have not by any means exhausted the many
[illegible] recommended but I do [illegible] I have

[illegible] & urged to abstain entirely from a[illegible]
Alcohol. Prevention being sixteen lim[illegible]
however, I think that Physicians should be [illegible]
[illegible] about recommending Alcohol for slight
[illegible] as it is most powerful and dangerous
[illegible]. Perhaps should it not be discarded in Dipso-
[illegible] of Opium is, should it [illegible] with [illegible]
[illegible] resistance to it also. Perhaps in some [illegible]
should hardly be given to reformed drunkards as so
[illegible] have occurred of men who have relapsed in
[illegible] thereon [illegible] because it is [illegible]
[illegible] in the use of this drug, when we hit upon
[illegible] it is in our country. It is to be hoped
[illegible] soon be clear from the present [illegible]
[illegible] to them of causing men to be [illegible]
[illegible] the [illegible] that they [illegible].

An
Inaugural Dissertation
on
Scarlatina
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
J. Oliver Harrington of
the Class of
1875.

Scarlatina.—

Scarlatina is an eruptive fever, characterized by a red or scarlet rash, from which it receives its name.
It is one of the most frequent and fatal of contagious diseases.
The disease may occur at any age, but childhood is the period of life in which it is most frequently met with.
This disease is divided by some writers into three forms, simple, malignant, and malignant.
Thus the simple form when the disease is mild in its character, and is attended with any fever.

symptoms, the exquisite, where there is great functional irritability, with little rash on the surface, and the malignant where the disease presents itself in its worst form, and with depression from its onset.

But for all practical purposes, the disease may be limited into two forms, simple, and malignant.

Anatomical characters.

The anatomical characters pertaining essentially to this disease are, a morbid appearance of the throat, and an eruption on the surface of the body. Other lesions met with

are due to some complication.

Symptoms. —

The disease is divided into three stages, stage of incubation, stage of invasion, and stage of transpiration.

Stage of invasion. — The disease generally comes upon the patient suddenly. The very first complaint is a cold sensation, often accompanied by a chill, the pulse is accelerated, rising from one hundred, to one hundred and twenty per minute. Headache, anorexia, and thirst supervene, and delirium and epistaxis are not uncommon. Vomiting often ushers in appear-

ance in this stage. In very [illegible] cases, the patient does not [illegible] to bed. In this stage of the disease there is some embarrassment in swallowing, associated with efflorescence on the faucial surface. The stomach is often [illegible] of great irritability. The patient is more or less costive.

When the disease has continued for six to twenty-four hours, an eruption usually means its appearance [illegible]. It may not appear until two or three days, or may come on in a few hours from the beginning of the disease.

Cl delay in its appearance may be attributed to some existing complication.

Stages of Eruption. The eruption first makes its appearance in the form of spots, dots, and coalesce, forming patches of an irregular size and shape, with serrated margins. In a number of cases, the eruption first makes its appearance on the trunk and limbs, and thence spread to the neck and face. In the flexures of the joints and the axillae, also on the thighs where the skin is thin, the eruption is for a more

vivid character, and remains a longer period. The eruption is of a scarlet or vermillion color, and bears some resemblance to that produced by heat or mustard blister. The cutaneous surface presents a similar appearance, especially on the face, and in a few cases reveals by touch numerous points which are papillae abnormally developed. By pressure, the redness will disappear, and return again on its removal. The time generally occupied in the shedding of the eruption, is about three days from its first appearance. The throat in most cases

ses of this disease is affected.
The back part of the pharynx, and also the tonsils, presents a reddish appearance, and in some cases covered by a fibrinous exudation. The exudation resembles diphtheritic faux, but can be wiped away in scarlet as in diphtheria.
The tongue is covered by a fur, and the papillae becoming swollen, it rolls the covering, and presents the appearance of a ripe strawberry, which it is said to be pathognomonic of the disease. Fever is greater in this stage than in the first. The pulse is accelerated, often reaching 140 and

and twenty to one hundred and sixty in a minute. The heat of the skin is increased, and vomiting, anorexia, and thirst sometimes. Delirium is quite frequent in this stage, often reaching to a violent character. These symptoms sometimes for a period of from six to eight days, when the rash begins to disappear.

Stage of Desquamation. This is ushered in by a general desquamation of all the above named tissues. The cuticle exfoliates in the form of scales or flakes, the fever diminishes, the appetite returns, and all the functions of the system go on

in their normal state, and convalescence may be declared. This stage may continue for weeks, or may end in a few days. The course of the affection above detailed, applies to the disease in its mild form, and without complications. But this disease is attended with so many complications and sequelæ, as to render it among the most fatal diseases. In some cases, the disease is so light as will be discovered by the relations of the patient. The eruption is not always seen upon the surface, and in these cases pharyngitis

is [illegible] and [illegible].
The ~~name~~ term malignant is applied
to cases where the patient is greatly
affected, and the amount of exudation
is abundant, and has some
resemblance to diphtheritic deposit.
In some cases, the drum
membrane of the ear has been perforated,
the result of inflammation.
Severe pharyngitis is dangerous
from the exhaustion to the patient,
and rendering swallowing difficult.
The voice becomes [illegible],
and noisy respiration so often heard in
this form of the disease is due to
a secretion of mucous and pus,

which collecting around the entrance of the larynx, preventing to a certain extent the admission and expiration of air. Headache and delirium become more violent, and coma supervening, death inevitably ensues.

Complications. –

In mild forms of scarlet-fever, complications are rare, but in grave and malignant cases, they are of frequent occurrence. The most frequent is convulsions of a clonic character. They are due, in part to the scarlatinous poison in the blood which produces

changes peculiar to itself, and also to congestion of the nervous centres, as shown by the prominence and pulsation of the anterior fontanelle. These occurrence in this stage of the disease are not so fatal as, when they make their appearance during the eruptive period, or, when they cease to occur untill this stage is developed. Congestion of the kidneys, leading to deficient elimination of urea, are prone to an attack of convulsions. Embrocalities may also be present, and prove a source of danger when protr-

-acted. Diarrhoea often marks its appearance in early hours of the disease, and its persistence to the end constitutes a complication. Of the other complications, rheumatism affecting the joints may be mentioned. Its presence in children may be made known by evidence of pain on pressure, or moving the joints in any manner. In a majority of cases the disease affects the wrist, more than any other part of the system. All of the above complications may occur as sequelae when they are protracted or linger on until the disease

has subsided.

Sequellae.

The most common and dangerous of all the sequellae are, albuminuria with nephritis. The kidneys are larger and hypereemic. The albumen may be detected by boiling a portion of the urine in a test-tube, when coagulation of the albumen will take place unless the urine be alkaline, in such be the case add a few drs. of nitric acid before boiling. The urine frequently contains casts of the uriniferous tubes in nephritis,

which leads to fever and anaemia or dropsy. The liability to dropsy is greatly increased by exposure to draffts of air, due to the close relationship existing between the skin and the kidneys. The dropsy when it makes its appearance generally last not less than two weeks, and may be protracted for months. It occurs about the third week commonly during the stage of desquamation. The effusion usually commences in the face, and extend to the hands and feet. It must be confined to these parts,

or may extend over the whole surface of the body, and even to internal organs, producing a fatal termination in a short period.

Inflammation of the lining membrane of the ear often follows scarlet-fever, and giving rise to purulent discharge and deafness. If the inflammation be external to the drum membrane, deafness is slight, and of short duration, but if the middle and internal portions be complicated, deafness remains permanently, or occurring from time to time, proving a source of great discomfort to the patient and the one who attempts to treat the same.

Causation. —

Scarlet-fever is highly infectious, and also invasible. The distance for a person to contract the disease from one another is thought to be not less than two or three yards. The disease rarely ever occurs spontaneously; its diffusion through a populace is by infection. The virus can be carried in clothes of persons attending upon the sick, and retains its morbific influence for a long period. The length of time for the disease to show itself is, from three to six days after exposure. Children under the age of one

year seldom contract the disease, and it is rarely if ever found in infants under three months of age.

Women immediately after confinement take the disease without communicating the same to their infants. The disease seldom occurs in an individual but once, however, cases are to be found recorded of its occurrence twice or even three times in the same individual.

Diagnosis.—

The diagnosis cannot be made out with certainty until the eruption makes its appearance. If a child, previously healthy, with a known

exposure to the disease, be seized with intense fever, rapid, pulse, and great heat of skin, ~~there~~ there can be little doubt as to the nature of the disorder. Vomiting attended with redness of the fauces adds greatly to the discrimination of the disease. The chief diagnostic sign in this disease are, the appearance of a scarlet rash upon the body, its rapid diffusion over the cutaneous surface, the exalted heat of the body, and in a case of febrile movement, the appearance of the eruption.

Scarlet-fever in some cases bears a close resemblance to ~~measles~~ Measles.

In measles the eruption appears generally about the fourth day ~~and~~ first on the face and gradually extending itself over the body.

In scarlet-fever the rash is sudden in its appearance, generally on the day from the commencement of the attack and does not necessarily appear on the neck and face first.

In measles complications with bronchitis and bronchitis frequently occur, whereas in scarlet-fever they are rarely met with. Fore-head and cerebral trouble but rarely occur in scarlet-fever. The eruption of the ~~ato~~ rales occur in distinct patches,

times coalesce, forming patches of an irregular shape, with an unaffected skin intervening. The rash in scarlet-fever occurs in the form of numberless dots, placed near together as to present a large surface of uniform color. The period of incubation in measles is longer than that of scarlet-fever. Measles is always accompanied with coryza and bronchitis. Cases of scarlet-fever in which the rash is either absent, or exist in a slight degree, are not unfrequently difficult to make out, unless other concomitants be well marked. Scarlet-fever has been mistaken for measles.

Prognosis.—

You cannot arrive at a prognosis with any degree of certainty until three weeks or more have elapsed, or, a sign of the disease disappearing for a time and convalescence may supervene at any moment and carry the patient off.

Some epidemics have been very destructive to human life, while others are comparatively free from it.

Complications render the disease exceedingly dangerous. Among the unfavorable symptoms are, a quick pulse, great heat of skin, [illegible] and ~~that~~ livid color of the [illegible],

and its rapid disappearance from the surface, together with delirium and convulsions. It occurrence in pregnant women, and also in those recently delivered, always bore a fatal. Profuseness of the eruption does not indicate the virulence of the disease. The favorable symptoms are, absence of cerebral trouble, moist skin, and a moderate fever.

Treatment.—

While we are treating our patients, we should adopt means to prevent the disease from spreading to other members of the family.

To do this, two things must

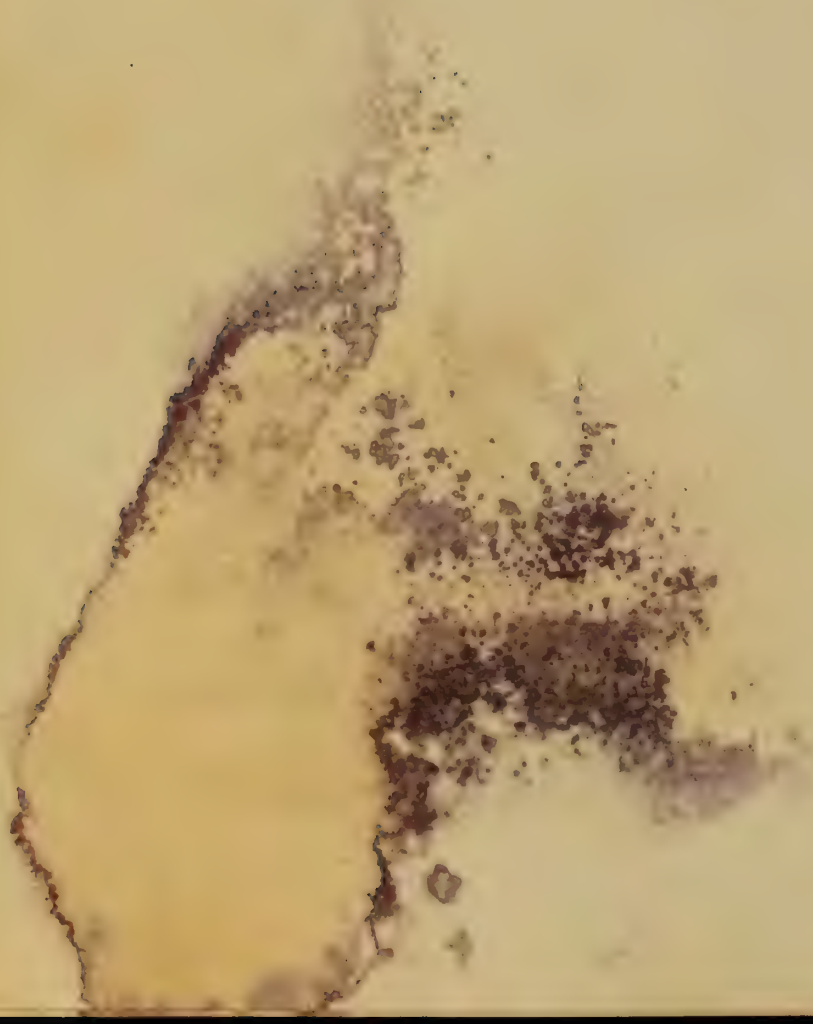
observed, cleanliness, and exclusion from the room of the sick, those not attending upon the patient. Ventilation is necessary; all towels, cups, sponges, and rags used by the patient, should be kept in water at a boiling temperature, and used exclusively by himself.

Belladonna is supposed to exert a favorable influence in warding off the disease. A good formula;

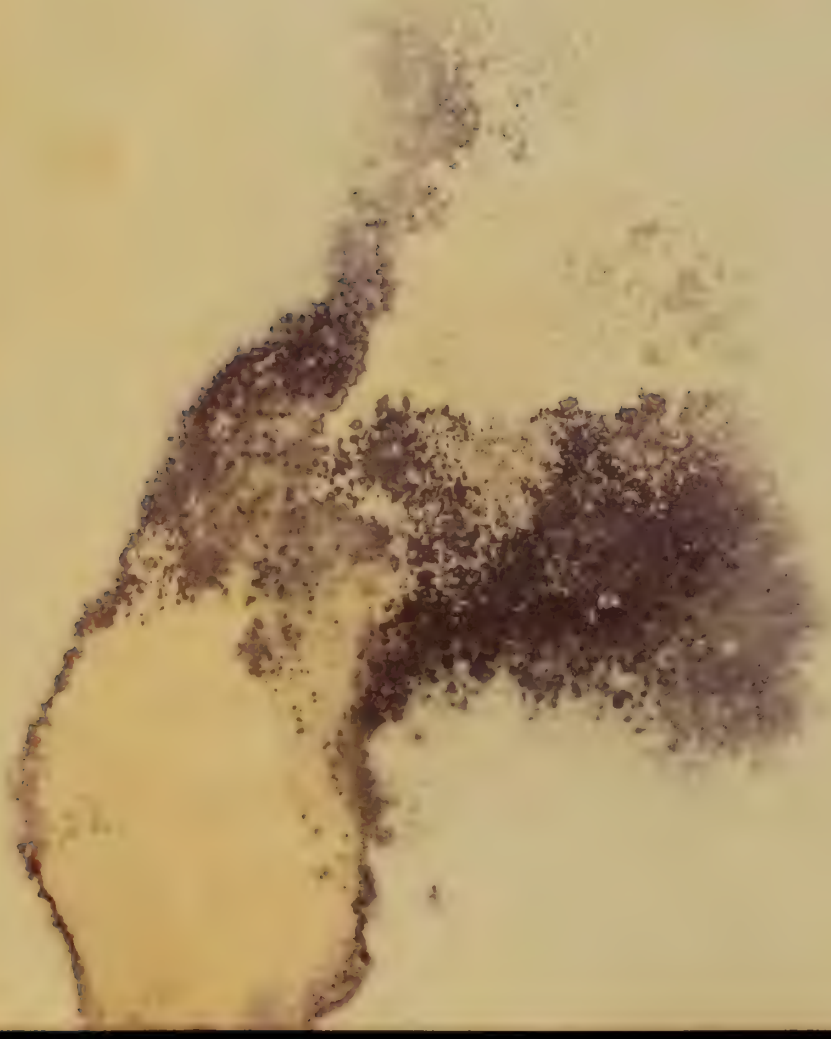
℞. Extractum belladonnæ grs. ij
Glycerine distillatae ℥ ij
M. one drop every four hours for adults.

Room should be kept [illegible] temperature of sixty degrees

{Farenheit}. During the desquamative period, the patient should not be exposed to cold air, as it increases the liability to dropsy, and other complications. In its mild form and without complications, it requires but little treatment, except that pertaining to hygiene. A gentle cathartic as citrate of magnesia should be administered, if there is any tendency to constipation. Purging to any extent is positively injurious. All bleeding measures are to be avoided. Bleeding is especially injurious, also blister-cupping. The use of

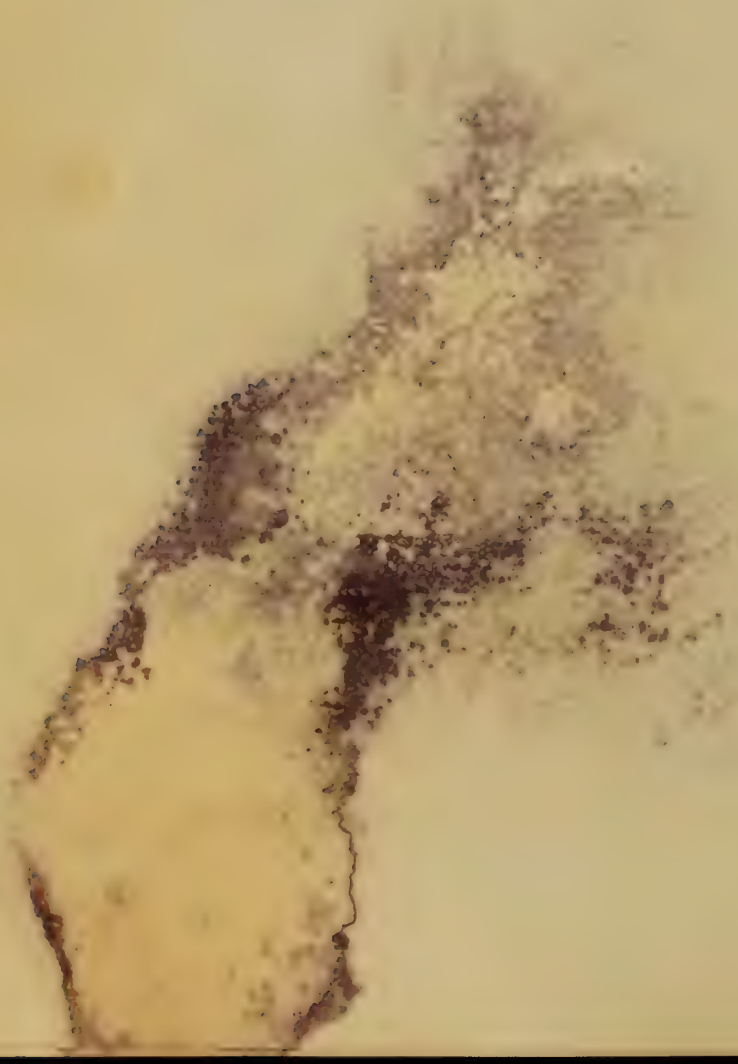


are contra-indicated. Emetics when the stomach is known to contain food are useful. Ipecac associated with alum will enable the stomach to disengage itself. They should be given in doses of ten grains of ipecac, with one drachm of finely powdered alum. The neutral mixture of citrate of magnesia, oil of lemon, and sweet spirits of nitre, is useful, and refreshing to the patient. When there is excited heat of the skin, with a [illegible], sharing off the body with water or vinegar is of great service



to the patient, and is supposed to lessen the liability to sinking effects. Cooling drinks, light nourishment, with free ventilation are indicated.

When irritation and itching of the skin are present, cold cream or lard applied once or twice during the day is very soothing to the patient. In a few of cases, the disease is more violent in its nature, and demands more decided measures. Of these [illegible] stated, 1st. The [illegible] class, a grain of chloral hydrate, in the following vinous anti-septic,



℞ Linimentum saponis, ℥j.
Camphor, ℥ss.
Tinct. opii, ℥ss.
M. To be rubbed on the throat.
The throat should never be blistered. The mucous should be washed from the nose, and injected a solution of chlorate of potash, carbolic acid, and glycerine.
If any uraemic symptoms occur, a saline purgative or elaterium may be given to promote the elimination of urea. No depletory measures such as blood letting should be employed, but sustaining treatment should be used [illegible]

first; Application of cold to the head, and warm foot baths, will be of benifit to the patient when cerebral trouble exist. Carbonate of ammonia is used as a main remedy by many skilful practitioners, and is generally given in combination with citrate of iron and ammonia.

℞ Ammonial carbonat,
Ferri et ammon citrat āā, ℥ss
Syr. simplic ℥iij
Misce. Dose teaspoonful every three hours to a child of five years of age. The Narcotic demands prompt attention through-

out the whole course of the disease. In cases of moderate pharyngitis, gargles are of great utility. In young children, and in cases where the pharyngeal symptoms are urgent, we cannot depend on gargles, but must make direct application to the parts with camel's hair pencil, or not of lint or sponges. Saturated solution of chlorate of potash one ounce, with six drops of carbolic acid, forms an excellent gargle. Where the applications have to be made with a pencil or sponge, chlorate of potassa and carbolic acid

should be used every three or four hours.

℞ Acid carbolic ʒss
Potass chlorat ℥iij
Glycerinae ℥ij
Aq ad ℥iv

Mix - for throat.

Small pieces of ice may be allowed to melt in the patients mouth. Inhalation of steam of hot water continued through the whole course of the disease.

If dropsy makes its appearance order warm baths, rub over the the region of the kidneys, and when limbs become edematous,

for a few small blisters on each limb, with a fine needle. The bowels should be thoroughly moved, then diaphoretics as bitartrate of potash, digitalis, and sweet-spirit of nitre should be given. When albumen is found in the urine, the tincture of the chloride of iron should be administered. As long as it remains in the urine, your prognosis should be guarded.

1875

Thesis

Respectfully Submitted to the
Provost, Regents
and
Faculty of the
University of Illinois and
for the Degree
of
Doctor of Medicine

By

G. W. Hudson

Camden, Ills.

An Essay
on
General Anesthesia,

By

G. W. Hudson,

Camden

Ark. Kansas.

Feb. 14th - 1876

[illegible]

[illegible]

to give a [illegible] [illegible]

-al anesthesia- [illegible] our

own ideas to advance or doctrine

to sustain — I regret [illegible]

saying that the present [illegible]

than all preceding ages is [illegible]

-ostrized by wonderful progress

in every department of human

knowledge. Nowhere has this

progress been more gratifying than

in the science of Medicine.

When I look over the text-books that

were in use fifteen or twenty years

[illegible] [illegible] [illegible] [illegible]
the student of this day. Elapsed
fifteen or twenty years in the
Medical world of this place is what
like an age. which brings to view
the microscope. the galvanoscope.
hydrogeoscope. and the aethrometer
and innumerable other means.
material and immaterial. of
revealing the healthy structure
and the diseased actions of
human organization.
Among the discoveries of the
present age. wonderful as they are
in variety and extent. and

sufficient in this consoling in its power to relieve human suffering equals in importance that of chloroform and its kindred compounds.

If it be not the duty of a society longer on the ancient visionary, it is at least the prompt assuager of, and mitigator of suffering to an extent unequalled by any other known agency.

Upon as we are indebted to the results of chemical research for the discovery and appliance

those principals of natural science by which commerce is revolutionized civilization advanced and the means of human enjoyment [illegible] and [illegible] yet even we consider how large a proportion of our race are afflicted by reason of pain and sickness from particular [illegible] these advantages. Even without thinking that the discovery of a therapeutic substance which effectually abolishes pain and thus takes from disease its keenest sting is one of the greatest

[illegible] of the chemical sciences
during the present century.
[illegible] the thought must be to suf-
fering humanity that they im-
pose a respite from their
suffering in chloroform. The
prevalent tone that a kind and
benificent Providence has seen
fit to bestow upon man-
kind in profound slumber-
dreaming, in fairy-lands, while a
surgeon removes from his
body a cancerous disease that
is dragging him to a premature
grave. For after all, of what

value are discoveries in science to the sick man. absorbed with the desire of relief from pain. if they bring no balm to assuage his suffering? Man is to a large extent the creature of circumstances. he is influenced by the conditions of things around and within him. he is interested with and values most that which contributes to his present need and enjoyment.
Thus when wasted by disease racked with pain. of what interest is he — is the discovery of

any new invention in science if it has no power to ameliorate this condition!

Anesthetics not only prevent pain and mental suffering but by placing the patient in a passive condition and gives the surgeon a control over him which he could not possibly obtain in any other manner. Deprived of sensibility and consciousness the former is virtually dead to all external impressions and the latter is therefore enabled to

conduct his dissections and other manual processes with as much ease and deliberation as if he was operating upon the cadaver. The advantages thus gained are absolutely incalculable — and he who would fully appreciate them must be able to put himself in the position of the situation of patient and surgeon — and then in imagination contrast their condition with that of the patient and surgeon of former times before the discovery of anesthetics

When the one was writhing in pain and agony with his system poisoned with narcotic drugs or intoxicating liquors - during a tedious dissection - and the other - had his progress unceasantly interrupted by the cries and struggles of the suffer - surgery evidently owes much to ether and chloroform - for the high position that it has attained as a science and art.

Thousands of operations are now performed - and with suc-

cess. That would never have been thought of before the day of chloroform or ether —

Discovery and chemical history of anesthetics —

First in importance of general anesthetics stands the liquids — ether — chloroform — amyline — bichloride of methylene — methylic and methyl-ethylic ethers &c —

To accomplish this task fully and satisfactory would require more time and ability than I have or can bestow. The points of most general interest therefore will be noticed —

Confounding ourselves with [illegible]
and "[illegible]" and "[illegible]"
being generally used. And will
be considered specially
the "Source Tree." Whether we consid-
er the novelty of its claims. The
speed with which its name spread
throughout the civilized world.
or the extravagant anticipations
that were formed of its power. It
stands without example in the his-
tory of medicine. Nor is it less sin-
gular that so brilliant and sud-
den an appearance should now
seem almost as sudden a [illegible]

by a [illegible] fit [illegible] point
him itself - and to the use of which it
pointed out the way.

If the most valuable discoveries
in natural science - and above all
in Medicine were usually the result
of logical inferences from opinions
a means of producing immortality
to Bacon would undoubtedly have been
of the first order ingenuity and
research - But such discoveries are
very differently made - for most
all of them - are work of chance or at
least of an apparently fortuitous
concurrence of circumstances.

such as human intercourse
alone have created. So in the present
instance an accidental concurrence
of a man of science and a professional
artisan appears to have been the
death and essential conditions of
a discovery on the threshold of which
investigation had been stopped for
more than half a century.

The existence of ether in solution
in liquid turpentine had been noted
as early as 1792. In 1801 Gilbert
a case of a female was terrified by
sleeping in a room in which a jar
of liquid ether had been broken.

On October 30th 1846. the first of the two series of experiments which demonstrated the anesthetic power of ether was performed by Dr Morton. a dentist of the city of Boston.

No sooner had Dr Morton made his discoveries known. that the honor of the discovery was contested by Dr Jackson. an eminent chemist and geologist of Boston.

But the honor was awarded to Dr Morton. The demonstration of the anesthetic power of ether in surgery though attended with many satisfactory results. seemed to excite

in the philosophical and inquiring mind was early awakened to the condition. That a more reliable as well as more agreeable substance might be produced to secure the same results. In many cases the vapor could not without great difficulty be inhaled, exciting a cough in some, in others, producing nausea and head-ache. Its disagreeable odor was objected to by many, and its liability was not infrequent recurrence. Under these circumstances investigation was stimulated to obtain a better anesthetic.

Although in November 1847 - Dr Simpson of Edinburgh had directed his attention to the subject discovered in the properties and effects of chloroform - all that his most sanguine hopes had anticipated. Chloroform had nevertheless been used in this country as early as 1832 - in spasmodic diseases by Dr Locock - & so recommended by Wood & Bache - in spasmodic affections attended by difficult respiration - in the form of inhalation in 1846. Sulphuric ether is a volatile inflammable liquid - of a

by the action of acids on alcohol and containing not less than 92 per cent pure ether. has a strong and sweet odor. hot, pungent taste.

Chloroform was discovered by Mr Guthrie of Sacketsharbor, N.Y. in 1831 - and about the same time by Soubeiran in France and Liebig in Germany. It is remarkable that so important a discovery should be made by three chemists in different portions of the world about the same time and independently of each other. Mr Guthrie obtained it by distilling a gallon

from a mixture of three parts of chloride of lime and two gallons of alcohol - and rectifying it, first and last by redistillation - first from a great excess of chloride of lime - and afterwards from carbonate of potass - Methyl series was discovered through the researches of Dr. Hofmann. The anesthetic properties of this agent was discovered by Dr. Snow of London - in Nov. 1847 -

Ethyl Series was first discovered by Mr. Gaster - in 1812 - The honor is evidently due Dr. B. W. Richardson for his discovery of the anesthetic

properties of these agents - and for the zeal with which he has prosecuted his investigation of this class of agents - not only as an anesthetic - but as a therapeutic agent &c

Protoxide of nitrogen - nitrous oxide - the laughing gas of Dr. Priestley. The anesthetic properties of this gas was discovered by Horace Wells - a dentist in 1844 - in Boston -

But at a public exhibition in the Medical college in Boston - where the experiments were repeated by him - they entirely failed - and so

engrossed was he at a moment's notice abandoned all future attempts. gave up his profession - became exceedingly vexatious of mind - and finally under mental aberration terminated his own existence in 1844.

Although not successful in every attempt of his unfortunate life, demonstrates to a public apprehension the practicability of anesthesia in a patient. contributed in no small degree - doubtless to more valuable discoveries which soon followed - In attempting to give an insight in history, physiological and therapeutical actions of anesthetics.

I find myself confronted with
Darwin's hypothesis - and science.
But I will let it suffice to give
a few of the most recent views.
As before stated - I shall try to
confine myself to the discoveries
having already investigated the
discovery and original work of
Christian Gram - in a separate
chapter and a separate
chapter later - internally. In a paper
then detailed an investigation.
Moreover for a short time regarded
as the only reliable method of
now after the lapse of over 1 year

the first effect regaining its former
reputation.—

Chloroform when used in the
form of vapor is a powerful anes-
thetic. Taken internally, a sedative
and antispasmodic. It has been ob-
served that narcosis could not be
produced by taking chloroform
by the stomach. But this has been
disproved by the following exp-
eriment of Dr Laisle. On himself
On an empty stomach he swallow-
ed ℞ x lv. of chloroform suspended
in an ounce of mucilage. Soon
afterwards of vertigo and a

getting of pressure all down the body
succeeded almost at once, preceding
the alleviating the dose. The pulse
was throbbing 100 per minute, and the
heart beating with uncomfortable
violence, and there was decided
confusion of mind. Five minutes
later he experienced much nausea,
and the pulse became slower, but
at this point he fell into a state of
unconsciousness. On recovering
his senses he found that it was
fifteen minutes from the time of commencing the experiment. For nearly
two hours after this he remained in

a state of great excitement it is exhausting and to it arising pain in the head and limbs.

To insure success in giving anæsthesia. Observe the following well known rules and directions given. which will apply equally to ether and chloroform. As to the condition of patient and mode of administration. The patient as far as possible should be kept in a state of perfect quietude and free from excitement and if possible in a recumbent position.

Let talking and questioning

be greatly resisted. In case it
is not be consented - and should there be
any pulmonary or nasal disease
or should the patient be very weak
and anemic the administration
should be conducted with great
care. Unless very feeble the patient
should fast for two or more days
before the inhalation is commenced.
The patient should be perfectly
undressed when convenient and
invariably anything tight around
the waist or chest is most emphatically
to be avoided. A dilute is thought by
some to be beneficial before commencing the inhalation — a little

Poisons or Nervines — The use of anæsthetics — are contraindicated when the heart is weak and intermittent — or in poisoned conditions of the blood as in Uræmia — and in acute alcoholism — delirium tremens. &c.

In relation to the substance from which chloroform should be inhaled General opinion seems to be settled down upon the simplest and most convenient — a handkerchief — sponge — A flannel-napped surgeon — but recently, provided the air be passed freely through it — is very good — indeed one of the best respirators that we can use —

For the administration of anæsthetics various apparatus have been invented but some simple apparatus is best for the administration of chloroform. With one exception very little atmospheric air is to be allowed with the ether vapor. It seems to prevent success. The vapor should be allowed to pass into the lungs both by the mouth and nostrils.

The different stages may be divided into five. The first stage includes the slight effects which are experienced by the patient while he retains sufficient consciousness to

appreciate his situation - not a knowledge of what is occurring around him.

Second stage is a dreaming, or wandering state of mind - this is observed when the patient is silent - immediately preceding loss of consciousness.

Third stage - there are no voluntary movements - articulate sounds - or anything indicating the presence of ideas - but there may be involuntary muscular contractions or rigidity.

Fourth stage is a state of absolute relaxation of the voluntary muscles

in which contraction can be excited in them. The breathing is sometimes stertorous in this stage.

Fifth stage is a stage of impeded respiration observed previous to death in animals killed by chloroform, &c.

Mr. Budin, & Dr Coyne, have found by experimenting on animals. In different stages of anesthesia under the influence of chloroform are very marked in the appearance of the pupils of the eye.

Signs of danger. Lividity of face. remove the chloroform. and let

The patient lies quiet. Open the mouth and pull the tongue.
In dangerous respiration — the chloroform should be stopped.
Dash cold water on the face and dry with a towel. When the pulse is feeble proceed with care. If the pulse grows weaker the anesthetic should be stopped.
The death-like pallor is the most dangerous sign of all and must be met without a moment's delay. The doors should be opened. Sprinkle water in the face, dash it with the towel. Open the mouth, and

if - so is usual - breathing, as soon as it begins artificial respiration at once - If this collapse continues it in time may usually be injected into the rectum -

If a large catheter be at hand it may be well to introduce it into the trachea and inflate the lungs by his mouth - &c ——

Dr Jones thinks that syncope during the administration of chloroform is due or caused by anemia of the brain. It appears that Dr Malon of Paris first conceived this idea, and practiced the plan of covering

the head and elevating the body with artificial respiration — syncope supervened.

Dr Sempleit of Lord Brougham's lately reports three cases — all of which he revived in a similar manner — Since the discovery of anesthetics — the medical world has been puzzled to know their modus operandi — various hypotheses have been advanced — some advocating ether as the only reliable anesthetic — others preferring using chloroform — The subject of ether narcosis has been ably investigated by Dr Lawlie —

The other nervous diseases induced by inhalation of the atmosphere vitiated, or impregnated with the [illegible] the colic effects consist of a paralysis which operates from the periphery to the center - which involves both the sensory - the motor - and the organic system in nearly an equal extent - the sympathetic nervous being usually appearing the earliest and the sensory affection slightly preceding the motor.

In chloroform - have seen nervous spasm at the beginning of the inhalation - the vessels become at once

paralyzed. The pulse is imperceptible and death follows rapidly with deep inspiration. - After this the cliff. states it has frequently verified by experiments on dogs and rabbits. A paper received in the Boston Med & Surgical Journal of May 21st 1874 - an interesting investigation on the influence of anesthetics on the vaso-motor centre by Dr B P Bowditch. In which the following conclusion was arrived at. While ether and chloroform resemble each other in their effects on those nervous centres whose activity is connected with in common

Perceptions of pain. The latter acts more strongly than the former upon those centres which regulate the arterial circulation — and thus affects profoundly the conditions of animal life. Ether and chloroform — are therefore both anesthetics — but chloroform is something more —

In conclusion I will notice a few points in regard to the morality and the propriety of using anesthetics &c —

The discovery and introduction of anesthetics in the treatment of disease — has met with great success.

but nevertheless there is recorded to its discredit two or three fatal deaths. Chloroform has been used in a very satisfactory manner by Dr Charles Field; See a paper in the London Med. Times, May, 1860. In which he states that up to that time about 125 cases had occurred in Europe. 25 from Ether and several from Amylene.

Of 121 deaths from chloroform 14 happened immediately before operations - 42 during the operation. The statistics also show that the mortality from chloroform has hitherto been more than twice as large in

males as in females - and that the danger from the inhalation of the substance is much greater in trivial than in large & serious operations. The latter establishes beyond a doubt a chloroform tolerance. Of the number of deaths from chloroform and other anesthetics in this country I can find no accurate account - but it has evidently been much less than in Europe - At St Guy's Hospital in London - chloroform had been used in upward of 12000 cases before there was a serious accident. And in the Crimean war according

to the testimony of Florence it was administered more than 40 times without a single death.

When we take into consideration the universal manner in which chloroform is used, and the frequency of the substance for good and ill, I think we might reasonably expect to hear of more deaths than we do. Though it is not surprising that in the minds of some this inquiry should present itself as one of serious importance whether to abolish even good, rather than to employ an agent that

may destroy life - But if so on with this mode of reasoning and we where it will lead us -

There is scarcely an article in the Materia Medica of much potency but would on this same ground have to be discarded from the list of Medicinal agents - Who does not know that directly or indirectly Opium has slain its thousands and yet when judiciously administered - what more safe in its effects upon the system -

The same might be said of Belladonna - Strychnia - arsenic - and a

some of other Medical Institutions.

With these remarks we leave
General Pirotheria. Relea-
sing they may rest on
the approbation of the Friendly

An
Inaugural Report
Of
Six Cases
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
C. Eugene Chamberlayne
Of
Kabletown, Virginia.
1875.

Case 1. Lithotomy.

Edward Pritchett, a sailor, was admitted into the Baltimore Infirmary March 26th 1874.

When admitted the patient was complaining of heavy, dragging sensation in the groins, and sharp, cutting pains in the glans penis: whenever he walked or stepped heavily, the pain was excruciating. He was continually pulling the prepuce to relieve the burning pain; whenever he attempted to urinate, after a small quantity of urine had passed, the flow was suddenly arrested, and he instinctively emptied his bladder, by lying on his back.

Professor Tiffany passed the sound and ascertained beyond doubt the presence of a calculus in the bladder. He then directed a large dose of castor oil to be given to

unload the patient's bowels and prepare him for the operation of lithotomy.

March 28. The bowels were moved freely during the night, yet to remove any fecal matter that might be in the rectum, an enema was given. At 11 A.M. he was anaesthetized with ether. Though the diagnosis was clear and positive, yet Professor Tiffany passed the sound, and a second time found the calculus. The left-lateral incision was made and an entrance into the bladder was immediately effected.

The incision was one inch and a half long. Though the transverse perineal artery was cut, yet the hemorrhage was so small as to require neither ligature nor styptic.

The introduction of the finger revealed

the presence of two calculi in the bladder.

The larger proved to be one inch and a half through the long diameter, one inch through the short diameter, and weighed one ounce and a half: the smaller was one inch through long diameter, three-quarters of an inch through short diameter, and weighed one ounce. The operation required but fifteen minutes.

The patient was removed to his bed and an injection of Magendie's solution was given to allay pain. Quinine was also exhibited to prevent the shock which so often follows surgical operations.

One grain of opium was given to obtund the sensibility and constipate the bowels.

The part over which the urine flows

was prescribed by the following:—

℞ Tannin ʒij

Glycerine ℥ij

To protect the wound from erysipelatous infection, carbolized oil was spread on the draw sheets and carbolized water injected into the incision.

At 6 P.M. pulse was 140 and very weak.

March 29. The patient slept soundly throughout the night and was greatly refreshed this morning. One grain of opium was exhibited every six hours. The drainage tube is kept in the bladder to drain away the urine as fast as it flows to prevent its being infiltrated into the connective tissue. Six grains of quinia are given during the day for its tonic effect.

March 30. The draw sheets are changed and oiled every third hour. The patient did not rest well last night but suffered greatly about the incision. His socks this morning are haggard. To-day Professor Tiffany directed thirty minims of the tincture of the chloride of iron and two grains of quinia to be given three times daily.

6 P.M. pulse 112 and very good.

March 31. Patient rested remarkably well throughout the entire night and was in good spirits this morning. The opium in one grain doses is still continued.

About 11 A.M. he began to complain of languor and dulness, about 12 he had a decided chill which was feared to be a forerunner of pyaemia.

Ten grains of quinia were immediately given, also ~~ten~~ minims of Magendie's solution. 2 P.M. thirty grains of quinine were given. This evening the patient passed about four ounces of urine per urethram 8 P.M. pulse 136, very weak. temperature 100.

April 1. This morning the patient was gratified to find himself so happily situated. Professor Tiffany directed half an ounce of whiskey to be given after each meal. The iron, opium, and quinia are continued as formerly directed.

4 P.M. a high fever rose, temperature went up to 105; pulse 135 and very soft. The skin very hot and dry.

The patient complains of intense pain in the wound.

April 2. Befor mid-night, the fever abated and he fell into a quiet slumber which lasted until morning.

As the fever seems periodical, the quinia was given in large doses to-day and happily prevented its return. The opium was discontinued to-day. Pulse at 6 P.M. 86. temperature 100.

April 3. No change in the condition of the patient since yesterday. As he has had no passage since the operation was performed, an enema was given him. Excepting the opium, the treatment formerly directed is continued.

Patient has been free from all pain to-day. 3 P.M. pulse 84, temperature 99.

April 4. Eight days have passed since the operation and the condition of the patient is extremely flattering.

He sleeps soundly, is free from all pain; has a good appetite and seems to enjoy his food: to-day the quinia was reduced to tonic doses; the iron and other treatment continued. The previous enema having had no effect, another was given to-day, which brought away large fecal discharge: urine passes mainly through the incision: temperature and pulse normal.

April 5. The condition of patient is much improved since yesterday. Last night the urine ceased to escape through the incision, and he is able to pass it per urethram.

Pulse at 3 P.M. 80. temperature 99.

April 6. The patient is able to retain his urine and void it when necessary by the natural passage: whenever he allows the bladder to become too much distended with urine, the distension opens the incision and allows some urine to escape through the incision. The bowels have regained their normal condition.

April 7. The patient is progressing so rapidly and favourably, that he will be in a condition suitable to be discharged from the hospital in a few days. His appearance is that of one in perfect health. All of his urine is voided per urethram except when his bladder is distended, then only a small portion escapes through the incision.

April 30. Since the 12 inst., the patient has rapidly advanced toward recovery: the incision has closed by granulation.

For several days the patient has been walking about the wards. The reason why I have made no notes on him for several days, is because, there were no changes, except a gradual advancement.

To-day he was discharged from the Hospital. Thus ended happily Professor Tiffany's first case of lithotomy.

Case ii. Pneumonitis.

Samuel Biddle, age 24 years, was admitted into the University Hospital, June 13th, 1874. The patient states he left England on the 12 ult., consequently he had been in this city, but a few days; he further states he drank largely of liquor on the voyage and has been drunk the greater portion of the time since he arrived in Baltimore.

He was taken sick but four days ago; says he was seized with a severe chill which was followed by a high fever, severe pain in the region of left nipple, incessant coughing attended with severe pain, and expectorated with difficulty a ropy, viscid matter.

June 14. Auscultation revealed a fine crepitant râle on the right side, and there

was slight dulness on percussion.

The left lung is not involved; patient suffers from severe headache, intense thirst; skin is hot and dry; pulse 120 full and bounding; temperature 104° under tongue.

Cough is less painful than yesterday; expectoration is easier and the matter spat up is streaked with blood giving it the characteristic appearance of the sputa of pneumonitis. Professor Howard saw the case today for first time and after examination pronounced the case pneumonia of the entire right lung, in the first stage.

The left lung was not involved; the patient was suffering greatly from dyspnoea at the time of the examination.

Prof. Howard directed the following: —

℞ Quinia Sulph ℈jss
Acid. Sulp. Arom. gtts X4
Spir. Aeth. Nitr. ℥ij
Opii Tinct. deod gtts X4
Syrup Simp ℥ij
Aquae ℥ij

S one-third every six hours.

He also directed the following: —

℞ Liquor. Ammon. acet ℥iijss
Spirt. Aeth. Nitr. ℥ss

S ℥ss every six hours alternating with the above prescription.

June 15. The patient was suffering intensely this morning when I visited him. Respiration panting, numbering sixty inspirations per minute, pulse 140, and temperature 105°: skin very hot and dry. In the right lung pneumonia had advanced to the second stage, as is

shown by bronchial respiration, bronchophony and perfect dulness on percussion over the entire surface of the lung.

Auscultation revealed the presence of a fine crepitant rale on the right side showing that the left lung is being involved also, which sad condition of affairs has supervened since yesterday.

The condition of patient is unpromising in the extreme.

Prof Howard saw the patient and ordered the following:—

℞ Syrp Ipecac,
Sprt. Aeth. Nitr. ā ā ℥iij
Ammon. Muriat ℥j
Tinct. Opii deod. ℥j
Aquae ℥iij

S ℥j every three hours.

July 16 th, The condition of the patient was one of extreme danger when I visited him this morning. His sufferings were so intense he had obtained no rest at all last night: respiration was labored and panting numbering eighty per minute, pulse 140 and very weak, temperature 105°. Diarrhoea has been very troublesome from the first, the dejections are troublesomely frequent. The face is livid, countenance distorted by his intense suffering, especially the cephalalgia and pain in chest.

Prof. Howard ordered the following:—

℞ Morph. Sulph gr j

Saccha. Alba. grs xx M

Ft chart. no viij et S. one every third hour

July 17. About 3 A.M. the patient became delirious, talked wildly and incoherently, abused his comrades who were present only in his diseased imagination: he would rise wildly from his bed and make vigorous efforts to get out of the room. The presence of someone was constantly required to keep him on his bed: about noon he became quiet, the delirium taking a low muttering form.

He then began to pull up the bedclothes and fumble with his body linen; abdomen very tympanitic, sordes collecting on teeth, and breath disgustingly offensive, diarrhoea persistent. The pulse was very weak, the action of the heart fluttering, temperature 106°, respiration panting, face livid.

It was apparent that the hour of

dissolution was near. The state of the patient grew worse as the day wore on and at 8.15 P.M. he suddenly sank back on his pillow dead, death resulting from apnoea.

No post mortem could be obtained. The unfortunate young man was a brother of Dr. Biddle, resident physician of Guy's Hospital, London.

Case iii. Typhoid Fever.

John MacDonald, a sailor, age 30 years, was admitted into the University Hospital, June 30th, 1874. Eleven days ago he was taken sick: first had severe chill, followed by a high fever, profuse perspiration, headache especially in the frontal region, pain in the loins. When first seen the rose colored spots were numerous and well marked, great tenderness on pressure in right iliac region, diarrhoea, cephalalgia, considerable epistaxis on the first day of entrance: he was so irritable that it difficult to examine him closely, consequently no treatment was ordered.

His pulse was 108, respiration 30, and temperature 102.

April 1. During the night the patient became delirious and when I visited him this morning he was talking incoherently to to his comrades who were present only in his imagination. He would reply to inquiries in such a hap-hazard manner, that no reliance could be placed on his answers. His eyes were directed vacantly toward the ceiling. When told to put out his tongue he would do so, and would leave it out until told to pull it back. His bowels were moved four times last night.

6. A.M. pulse 108. temperature 100, respiration 24 per minute: 6 P.M. pulse 130, temperature 104. respiration 34. His stools are watery and have the characteristic ochre color.

Professor Howard ordered the following:-

℞ Ol. Terebinth. ʒiv
acac. Gum. ℥iv
Saccha Alba ℥ij
Spir. Aeth. Nitr
Aqua. Cinnam. ā ā ℥jss
Aquae Purae ℥viij

S ℥ss every three hours.

July 2nd. The delirium continues; the eyes looking vacantly toward the ceiling are not disturbed by the flies which are ever abundant in hospitals during the hot seasons. The dejections are very frequent and offensive, and escape involuntarily in bed.

A thick yellow fur covers the tongue, and it wavers from side to side whilst protruding it from his mouth.

6 A.M. pulse 108. temperature 101°. respiration 26. 4 P.M. pulse 134, temperature 105.

℞ Quinia Sulph ℥ss
Acid. Sulph Arom ♏xx ℞
Ft. pill. no x S one every second hour.

July 3. I found the patient muttering incoherently to himself this morning; being a mate, he would give orders in nautical terms to his men, raving when his orders were not obeyed with alacrity, lavish with praises when his directions were performed readily: The abdomen is very tympanitic, the tongue has begun to clear up from the centre in large flakes, leaving a a bright-red surface: the diarrhoea is very profuse. The patient declares he has had no sleep since he came into the hospital, yet he doses every few minutes, a condition admirably expressed as <u>coma-vigil</u>, characteristic of the disease.

10 A.M. temperature 103°. 3. P.M. temperature 105°.

Previous treatment continued.

July 4th. Condition of patient about the same; complains of headache; anorexia complete, food must be placed between his lips and then he tries to avoid it by turning aside his head: all anxiety concerning himself is gone, which however is a characteristic of this malady.

His food from the first has been milk, light soups, and beef tea.

10 A.M. temperature 104°. 3 P.M. temperature 105°

July 5th. The patient appears to be in great danger. The delirium no longer of a low muttering form, has assumed such a character as to require constant watching to keep him on his bed; he declares his presence is absolutely necessary on shipboard and he must return.

The tongue is covered again with yellow fur.

The tympanites is increased and the tenderness increased: patient appears to understand no question addressed to him: the skin is bathed in perspiration, which is clammy to the hand: the patient seems to be sinking I will not predict an unfavourable termination, for I once watch at the bedside of a friend equally as low, who made a very happy recovery. 6 A.M. pulse 120, temperature 104. 3 P.M. temperature 105; pulse 140

Prof. Howard ordered the following:—

℞ Acid. Phosph. dilut.
Sprt. Cardam.
Sprt. Myristicae
Syrp. Gum. Acac a a ℥ij.
Sprt. Frumenti ℥iij
Aquae ℥ij

S ℥ss every second hour

July 6th. No change has taken place in case since yesterday. I regard the patient in imminent danger: he is continually pulling up the bed clothes and fumbling about himself: the muscles about the mouth and jaw are constantly twitching: he no longer tries to rise but lies upon his back apparently oblivious to every thing around him, even the anxiety of those who are watching over him does not attract his attention. The dejections are more frequent and offensive: tympanites, tenderness and gurgling more marked. The mouth is parched and the fur more abundant: breath horribly offensive.

6 A.M. temperature 104, pulse 108.

4 P.M, temperature, 105, pulse 130

July 7. Condition of patient remains the same in every respect: there is no diminution of any of the symptoms: sordes on the teeth is abundant.

10. A.M. temperature 103. pulse 108.

3 P.M. temperature 104 pulse 130.

Former treatment continued.

July 8th. A slight change for the better seems to have taken place. The patient slept soundly last night and this morning he is greatly refreshed. 6 A.M. pulse 100, temperature 102. 3 P.M temperature 103.

July 9th. The patient is greatly improved in every respect, bowels moved less frequently and many unfavourable symptoms have partially subsided. 11 A.M. pulse 100 temperature 101. 3 P.M, temperature 102.

July 10th, The patient has become rational again: the tongue has partially resumed its natural color: sordes entirely gone; bowels moved only once to-day: tympanites not marked and tenderness much less.

9 A.M. Temperature 101. 2 P.M. temp. 102.

July 11th. The patient seems to be entirely out of danger, so flattering are his appearances: he replies intelligently to all questions asked him.

His appetite is good; stools only one daily. He is regaining his strength with remarkable rapidity after a disease so protracted, and so prostrating.

Treatment has been the same, tonics stimulants and a generous diet.

10 A.M. temperature 99. 2 P.M. temperature 100.

July 12th. I found the patient sitting up when I visited him: he does not know when he entered the hospital, nor what has been done for him. He is now nearly restored to health.

July 20. The patient may now be regarded as fully restored to health. Since the 12 inst., he has been walking about the wards and into the yard.

But for judicious management this case would certainly have terminated fatally.

The treatment has been substantially the same throughout the sickness; more attention was paid to nutrition and hygiene, than to physics.

Case iv. Fracture of Spinal Column.

Deitrich Wurthman, a carpenter, age 23 years, was admitted into the University Hospital, March 11, 1874.

The patient fell from a building twenty-five feet high, striking his back in the dorsal region, upon a log which was sufficiently high to allow him to be bent abruptly over it. The injury was of such a nature as to cut off all communication between the brain and the nerves of the lower extremity; consequently there a complete paraplegia. The patient had no control over his rectum or bladder; the urine collecting in the bladder was drawn with the catheter; the feces escaping in bed.

His suffering was so excruciating that to give him ease a hypodermic of Magendie's solution was given. Whiskey ℥ss in Milk ℥j is given every second hour.

March 12th. To-day the patient is much easier and there is no sensation produced when the catheter is introduced.

There is complete loss of sensation and motion below the seat of injury.

To prevent bedsores which appear so readily when the nervous supply of a part is cut off, the parts are bathed in alcohol containing corrosive sublimate.

Whenever the patient is turned on his face, blood flows freely from his nose.

March 13th. The only change noticed to-day is a foul discharge from the ear

which gave rise to a suspicion that the temporal bone possibly was fractured by the fall: he has no appetite; the whiskey and milk are given every second hour. Tincture of the chloride of iron in ʒss doses was directed to-day.

March 14. The patient appears cheerful to-day for the first time since he entered the house; his appetite is good; smokes his pipe and spends the greater part of his time in reading.

March 15: Bed sores have begun to appear at last; the extremities are warm, yet there is complete loss of sensation. A pin thrust deeply into the leg gives no pain whatever. He states that he feels as if a cord was drawn tightly around his waist.

There is a spasmodic jerking of the legs. Priapism is almost constant.

Carbolized oil is used to protect the ulcerating parts.

March 16. When I introduced the catheter to-day, the patient appeared to suffer intensely. He is gradually wasting away

March 17. The condition not materially changed since yesterday: the discharge from the ear has become more copious and offensive.

March 22. The patient is gradually succumbing to the effects of his frightful injury: The bedsores are spreading rapidly; the kidneys are congested and the urine has a strong ammoniacal odor

and is nearly one-half blood and pus.
His treatment is stimulants, tonics and a generous diet.

March 27. The decline of the patient is painfully apparent. It is evident that he can last but a short time.
Whiskey has been increased to an ounce in three hours.

March 31. The condition of the patient is very lamentable; the flesh is parting in large sloughs: the urine mixed with pus and blood is horribly fetid, and so thick that it is with great difficulty the bladder is emptied; so ropy is it that a portion hanging over the side of the vessel will drain the contents on the floor. Pulse weak and intermittent

April 1st. The suffering of the patient are lamentably severe; the contents of the bladder have become so ropy that they will not flow through the catheter. His condition is such that it is perfectly apparent that but a short will have to elapse before his sufferings will have ceased.

April 2nd. The patient desiring to urinate, I made an ineffectual attempt to empty his bladder, the contents of which consist of blood, mucus and pus, and the odor emanating therefrom is simply horrible. I made an attempt to inject warm water into the bladder, to dilute its contents, but signally failed.

About noon he became unconscious

and remained so until death released him from his suffering, which happy event took place at 8.15 P.M.

The post mortem revealed a fracture of the pedicles of the eighth and ninth dorsal vertebra, separating them from their bodies; the body of the eighth was driven forward completely away from the spinal column, so tightly compressing the cord as to destroy all communication between the brain, the great nervous centre, and the lower extremeties.

The meninges of the cord were torn and the cord itself was softened to diffluence.

Case V. Pleuritis

Mr. Magruder, a mail carrier, age 40 years, was admitted into the University Hospital. The patient states that he had an attack of pneumonitis during the winter of 1872-73, and another attack during the winter of 1873-74. He says that about five days ago he felt languid and drowsy which was followed by a chill which lasted half an hour, then fever set in, accompanied with sharp, lancinating pains in left side in the mammary region: these pains were excruciating whenever he took a full inspiration. Coughing, pressure or lying on the affected side greatly increased his suffering. The friction sound of pleurisy was distinctly heard, the respiratory murmur feeble.

Professor Donaldson examined the case to-day and pronounced it pleurisy of left side in the first stage, and ordered Dover's powder grs. X to be given three times daily, with the view of increasing the patient's comfort. To remove the constipation of the bowels a saline cathartic was given.

March 13. Professor Donaldson saw the patient to-day and found that large effusion had taken place since yesterday. Vocal fremitus was entirely wanting and there was perfect dulness on percussion over the affected lung: bulging of the intercostal spaces was marked, and bronchial respiration distinct.

The bronchophony has a peculiar

bleating character, called aegophony which Professor Donaldson described to the class.

He ordered Pot. Bitart. grs XXX
Pulv. Jalap. grs X

To be taken once daily; also tincture of the chloride of iron ℥ss to be given three times daily and a Dover's powder at night.

March 14. When Professor Donaldson saw the patient to-day he was suffering greatly: the intercostal spaces were distended greatly, the heart was displaced toward the right side, dyspnoea was was great; it was evident that mechanical interference was necessary to remove the fluid. Professor Donaldson introduced the canula of Dieu la Fois' instrument just above the seventh

rib and drew from the pleural cavity, twenty-six ounces of straw colored fluid. It was gratifying to see how instantaneously relief was afforded the patient.

More fluid would have been drawn but the patient began to cough violently and the operation was discontinued, with the hope that the remaining fluid would be removed by absorption. Hypophosphite of iron, quinia and strychnia ʒij were directed to be given three times daily.

March 15. The patient rested well last night and his appearances since the operation, are greatly improved.

Slight vessicular murmur is heard on forcible inspiration at the apex of the lung affected.

March 16. When I visited the patient this morning I found him sitting up in bed quite cheerful. There is dulness at the base of the lung, but the line of dulness has descended greatly: the respiratory murmur is still quite feeble

The last treatment still continued.

March 17. Professor Donaldson saw the patient to-day and pronounced him convalescing rapidly.

The fluid is nearly all absorbed.

The patient can lie on the affected side with very little discomfort.

The side was painted with the following:-

℞ Iodine ʒij

Pot. Iod. ℥j

Glycerine ʒiij.

March 18. Resonance is gradually extending downward: friction sound again distinctly heard: bronchial respiration less marked. The patient no longer suffers from dyspnoea. Prof. Donaldson ordered bromide of potash grs XX in aqua ammonia gtts XV to be given in water ter die.

March 19. The patient complains greatly this morning; the pain in his side was so severe as to keep him from resting last night: he is quite feverish, temperature 102°, pulse 96. The friction sound is plainly marked to-day.

March 20. The patient had a chill last night, which was followed by a high fever and profuse perspiration. Complains of great pain in his side.

March 22. The patient slept soundly last night and was greatly refreshed this morning. The fluid seems to be wholly absorbed; no dulness on percussion, vessicular murmur heard on forcible inspiration over the greater part of the lung.

March 25. Constant improvement is going on. The former treatment continued.

March 31. The patient has improved with remarkable rapidity since the 22 inst. Treatment has been substantially the same throught the sickness

To-day he was discharged from the Hospital.

Case VI. Albuminuria.

William Poole, a sailor, age 35 years, was admitted into the Baltimore Infirmary March 25th, 1874. The boat upon which the patient serves runs between this port and the southern coast, consequently the patient is exposed to many vicissitudes of weather and malarial influences.

He has suffered several attacks of intermittent; he is anaemic, and there is much puffiness about the eyes as to almost close them. He suffers from nausea, headache and great pain in the loins: there is obstinate constipation. The following was directed

℞ Quinine Sulph. ʒij
Liquor Ferri Chlor. ℥ij
Aquae ℥iij

S ℥j every fourth hour: a c.c. pill was directed to be given at bed-time.

March 26th. There was no change in the patient's condition to-day: the urine is deficient in quantity and the nitric acid test reveales the presence of albumen in large quantity, and the microscope shows tube casts, epithelial cells, and crystals of the oxalate of lime. The oedema is more marked than yesterday and there is some ascites Jalap grs xv, potassae bitartras grs xxx are given before breakfast, with the view of removing the effusion.

March 27. The ascites has increased since yesterday, otherwise there is no change in the case.

March 28. There is decided abdominal fluctuation and the walls are widely distended; the oedema about the eyes has decreased. Another examination of the urine reveals the same condition of affairs.

March 29. The dropsy seems to have released its hold on all parts of the system save the abdomen and here, to have concentrated its force.

The abdomen is enormously distended. The diaphragm is forced so high as interfere with respiration and the tension is so great that it gives him pain.

March 30. Tapping was proposed to the patient to-day, but he desires to try the effects of medication for a

while longer. The jalap and cream of tartar were given in doses and the iron in ℥j dose ter die.

April 2nd. There is no perceptible change in the patient's condition since the 30 ultimo.

April 4. A trocar and canula was introduced this morning in the median line about one inch below the umbilicus and about six gallons of fluid withdrawn: the relief was instantaneous. The following was directed to be given:-

℞ Tinct. Ferri Chlor. ℥iv
Liquori Ammon Acet ℥iijss
Acid. Acet. Dilut ℥ss
Tinct Card. Comp ℥j
Aquae ℥viij

℞. ℥ss every third hour.

The patient did not experience any unpleasant sensation during the operation.

April 5th. The patient is greatly benefitted by yesterday's operation, and to-day he is quite comfortable.

April 8th. There is no evidence of a return of the fluid, the patient is still quite comfortable: the treatment of the third continued.

April 10th. The patient has able to walk around his ward for the last four days; he expresses himself greatly relieved: his looks indicate a great improvement in his condition.

April 20. There appears to have been a perfect cure in this case: all oedema has subsided; the urine has regained its normal condition, all of the foreign matter having disappeared. Since the 4 instant he has been on iron alone in ʒj doses.

April 30. The patient left the hospital to-day apparently well: it is not known whether the cure was permanent or not as he has not been heard from since he left.

[illegible]

[illegible] on Lesions
and Enlargement of the Heart

by

Richard H. Smith of Ind

1875

Cardiac Valvular Lesions with Enlargement of the Heart.

Of all organic diseases of the heart Valvular lesions are the most frequent and in the majority of cases give rise to cardiac enlargement. The valves of the left side oftener affected than those of the right.

From an examination of four hundred cases of valvular disease Dr. Rufus infered that the proportion of cases in the right valves, was about one in twenty. Various causes have been advanced to account this discrepancy. The greater muscle power of the left ventricle certainly does seem [illegible] to have [illegible] strain

upon the valves of that side - but
Sir Thos. Walton says, nature seldom
creates for purposes so heavily
as not to adjust the strength of her
machinery to the labor it is des-
tined to perform

Whether the mitral valve is firmly
closed during the contraction systole
which the tricuspid remains partially
open, thus allowing the pressure upon
the latter valve, is a question, which
has not been satisfactorily settled.
Endocarditis, being a copious cause
of valvular derangement, attacks more
frequently the left than the right
side of the heart, owing, it is said,
to the more stimulating character of the blood

Anatomical Consult -

The valvular lesions in different cases present a great diversity of appearances. How well did Walton express this when he said, they become thick, stiff, fractured, curled up, or glued to each other, or to the opposite wall of the channel: or independently of inflammation, they may become morbidly thin, riddled with holes and even part asunder.

All the various alterations of structure, known as valvular lesions, may be classed, according to their effect upon the circulation, into four groups.

First, obstructive lesions, or lesions which interfere with the free passage of blood by narrowing the orifices. Second, regurgitant lesions or lesions which render the valves insufficient, and which cause the circulation, by allowing a backward current of blood. Lesions which impede the normal progress of the blood, and also permit a backward current, that is a lesion, both obstructive and regurgitant. Fourth, lesions which produce roughness of the valves, and the blood passing over the roughened surface gives rise to a cardiac murmur precisely as the bellows murmur.

Lesions of the last group are of little consequence; for by atrophy and rarely fusion of the valvular leaves either obstructive or regurgitant, or both, come [illegible] and the starting point of [illegible] valves with the [illegible] of [illegible].

Mitral obstruction or regurgitation gives rise to dilatation of the left auricle, this in turn produces pulmonary obstruction by not allowing the blood to return from the lungs, in consequence of the pulmonary obstruction, the blood is dammed back into the right ventricle causing over distention of this cavity followed sooner or later by

dilitation of both ventricle and auricle, thereby embarrassing the venous circulation, which may produce enlargement of the left ventricle

Lesions of the aortic orifice, either obstructive or regurgitant, are followed by the same changes, as mitral lesions, only the point of obstruction is not so sacred; we first have dilitation of left ventricle followed by enlargement of the cavity of the left auricle, and if life is sufficiently prolonged, the cavities on the right side undergo a similar change.

Enlargement of the heart is often spoken of by some pathologist as

being simple, eccentric and concentric simple, when there is increased muscular development of the walls of one or more chambers, without obliteration of the cavity. Eccentric when there is abnormal muscular growth with enlargement of the chambers. Concentric [illegible] takes place at the expense of the cavity.

For a simple, and more complete classification, we are indebted to Dr. Flint. He briefly tells us enlargement of the heart with or without valvular lesions is of two kinds. Viz. enlargement due to abnormal growth, or hypertrophy, and enlargement due to dilitation.

And further he says, in examination, after death, from valvular lesions with enlargement, the enlargement is not in general found to be exclusively by [illegible] hypertrophy, or dilitation, but the two kinds of enlargement are combined.

Hypertrophy of the ventricles usually begins first, the continuous pressure of the undue amount of blood upon the walls of the cavities stimulates the muscular fibres to greater action, and this gives rise to hyper-nutrition, and as a consequence, absorption of fat which results, in some cases, three or four times the normal size

This hypertrophy is conservative so long as it enables the heart to perform its regular action, but the muscular fibres of the heart, like the working muscles, reach a point beyond which they can not be fed, or excited to greater growth and when this limit is reached, another change takes place viz. dilitation commences.

Dilitation is caused by the increased quantity and force of the blood in the chambers of the heart and being its force is by mechanical principals, differs essentially from hypertrophy, which is a vital process due to hyper-nutrition

Dilitation weakens the heart action as it frequently causes hypertrophy, which always gives rise to

Chronic Kidney.

Vascular lesions

seldom give rise to any distinct symptoms unless accompanied by hypertrophy or dilitation and the greater the amount of overgrowth, especially by dilitation, the more urgent and dangerous are the symptoms. Vital lesions, both distinct and progressive, interfere with the respiratory organs, causing dyspnoea which is slight at first amounting only to inconvenience after much

muscular exertion, the patient feeling quite easy while at rest. The dyspnoea increases and soon becomes habitual and the patient is now unable to lie down - Cough is an other symptom accompanied with a muco-serous expectoration, sometimes slight and occasionally profuse - The cough and expectoration are due to a low form of inflammation in the bronchial tubes - Haemoptysis may occur but is usually slight - Pulmonary oedema and hydrothorax often supervene themselves, and increase the difficulty in breathing - The heart's action is abnormally

strong in enlargement of the heart while hypertrophy predominates, as may be known by placing the hand over the praecordial region. this increased action causes some trouble at first, but the patient becomes accustomed to this irregular action and ceases to feel and complain of it. The pulse is small and weak in proportion to the amount of obstruction or regurgitation, and in this way we can account for the intermittent pulse in valvular disease of the heart, the obstruction at the mitral valve, or the insufficiency of this valve being so great, that a sufficient quantity of blood

ons not pass through the aortic orifice to give a pulsation at the wrist.

This is not a permanent symptom, though there is probably more or less uneasiness about the precordium. The nervous system also, is but little disturbed. The patient, unless suffering much, seems regardless of the impending danger. In this respect there is a marked difference between organic and functional disease of the heart. In the latter diseases, the patient believes himself in an insecure condition and sees death constantly before him, and to avoid it, tries all remedies and

all doctors both regular and irregular. Blood is broken by unpleasant dreams, and in the last stages of the disease the patient being made to lie down, produces short periods of rest, in the sitting posture, with the body inclined forwards.

Dying sweats are of appearance in metal terms. The drowsiness effusion is seen first in the face and legs. The skin becomes erythematous, cracks, or ulcerates, allowing large quantities of serum to escape. Next it appears about the face and body, and as long if the patient survive, it becomes general.

The appetite is impaired, but assimilation is carried on quite well, for emaciation is not a prominent symptom. Albumen is found in the urine, arising from the congested state of the liver.

The blood is imperfectly carried from the respiratory system, leading to enlargement and tenderness of the liver, with tidy distention and hemorrhages from the lungs. Aortic lesions present symptoms somewhat different from those of mitral lesions. Hypertrophy and dilitation of the left ventricle follow, but the heart's action is much greater than in mitral lesions

which is followed by the greater amount of obstruction to colonic the pressure. In contraction of the vessels, the pulse is not much altered unless the constriction is very great. In regurgitant lesions the blood can be felt to recede from the finger, constituting what is known as the collapsing pulse.

Pain is often present in this form in mitral lesions, bronchial infiltration, dyspnoea and pulmonary congestion are not symptoms of uncomplicated mitral trouble. Sudden effusion is seldom seen, the patient's life being destroyed before the right

side of the heart becomes involved. The kidneys and digestive organs also become congested.

Aortic lesions are apt to be accompanied by regurgitation arising from over distention of the left ventricle. The blood suddenly accumulates through the heart and aortic regurgitant murmur; gives rise to paroxysms of dizziness, and often instantly destroys life by paralyzing the muscular walls of the left ventricle.

In these lesions the patient is more apprehensive of danger owing to the greater amount of suffering.

Mitral and aortic lesions are often combined, presenting symptoms characteristic of lesions of one or both valves. Valvular lesions of the right side of the heart are extremely rare, as already stated, being almost always a disease of early life, and often congenital. Dyspnea is an early and well marked symptom of lesions of valves of the right side.

[illegible]

[illegible] interfere with the passage of blood through the lungs, either by impeding its progress, or allowing it to regurgitate and thus

producing a change in the muscular coat of the heart. The hypertrophy, which follows is compensative in itself serving to equalize the circulation by overcoming the impediment. But dilitation is a change resulting from valvular lesions, to be dreaded for when it predominates over hypertrophy it diminishes the heart's action, weakens the circulation, and gives rise to symptoms of a dangerous character.

Causes.

Valvular lesions are caused in most cases, by inflammation and that generally

of a rheumatic character. Dr. Flint says of sixty one cases which he analyzed, rheumatism had existed at a former period in forty three cases. Out of these forty three cases, mitral lesions alone existed in twenty, aortic lesions alone existed in two, mitral with aortic lesions in eighteen.

Cartilaginous and bony organization seem to take place independent of inflammation, in a manner similar to the change which takes place in the action of old fibrous, non-yielding ossification. Staining, chronic, mechanical

exercise, or violent action of the heart may rupture the vessel, or cause the tendinous chords, sometimes when they have been injured by disease.

Diagnosis.

Varicose veins give rise to murmurs, hums or endocardial murmurs, and they may be divided into four classes, according to the portion and of the organic trouble, by initial systolic, transferred and fulminant murmurs. These abnormal sounds found chiefly upon, from the left side of the heart thus simplifying the diagnosis

We are guided, says Dr. Hope, in our judgement respecting the place of origin of a given murmur, by the time of its occurrence with reference to the movements of the heart and by the direction in which it is transmitted — and also somewhat by the quality of the natural pulse —

If a murmur be heard at the time of the first contraction, it must be caused by blood passing out of a ventricle — thus if a systolic murmur be heard at the base of the heart, on about the middle of the sternum and

extending upwards in the direction of the axilla and carotid, the end of the tumor reaches the ensiform cartilage of the ribs. The pulse as a rule remains unchanged.

If the systolic murmur can be heard plainest at the apex of the heart, or its left, extending backwards, so as to be heard down as far distinctly under or at the angle of the left scapula and the pulse weak and irregular the mitral valves need to be the seat of trouble. The character of the tumor being mitral in-sufficient

[illegible] heard at the time of the second sound of the heart, is caused by the passage of blood into the ventricles. This diastolic murmur is sometimes produced by contraction of the mitral orifice, but oftener by insufficiency of cardiac valves.

These lesions are known by noting the point at which the maximum of intensity is heard the pulmonary, and the direction in which it is transmitted, having in this respect the rules already laid down for diagnosing the point from where comes the

the valvular systolic murmur
We are still further assisted in
our diagnosis of aortic lesions,
as indicated by the diastolic mur-
mur, by not hearing the sharp
click of the second sound of the
heart, it being suppressed muffled
or confused by the regurgitant cur-
rent of blood. The pulse was
powerless valvular and, striking
the finger like a shot, and then
receding, the constituting the
jerking, or collapsing pulse already
mentioned.

Mitral obstruction, may and
often does give rise to what is known
as a pre-systolic murmur, or

what has been called by Dr. Gairdner
an anular systolic murmur. This
murmur is heard at the apex
of the heart following the second
sound & continues up to the
first, when it is lost. When this
anular systolic murmur is
heard, accompanied by a weak
fluttering pulse, we may feel
sure there exists mitral obstruc-
tion.

Next to be considered are the
abnormal sounds proceeding
from lesions of the tricuspid and
pulmonic valves. These murmur
sounds, we are told by Sir Thomas
Watson, constitute the injuries

cation than the necessity of diagnosticating organic - and we will therefore dismiss them by stating that when they do occur, they are found on the right side of the heart, and this must form a great extent the differential diagnosis of valvular disease of the two sides -

When cardiac valvular murmurs only aid us in diagnosing the seat of lesion, the extent of which is to be learned from other symptoms and changes. The most important change which defines the gravity of valvular lesions is cardiac enlargement

The healthy heart is heard by placing the ear in the precordial region, to hear over a circumscribed space - this space corresponds to the inferior half of the sternum and the cartilages of the ribs, from the fourth to the seventh. The apex may be seen to beat in the intercostal space, between the fifth and sixth ribs, two inches below the left mamilla and one inch within the linea mamillaris towards the sternum.

Now when enlargement has taken place, the action of the heart can be heard outside these bounds, indeed sometimes over

nearly the entire heart. The organ extending, as it does by prolongations downwards to the [illegible] and eight intercostal spaces, and outwards beyond it, in a manner, when the chest may be seen to strike. This enlargement as already stated, may be either by hypertrophy or dilatation, or both.

Hypertrophy, if it predominates may be known by the great amount of resistance it produces in the superficial cardiac region. If a hand be placed over the apex of the heart, we feel the heaving, swelling, incessant impulse characteristic of the thickened

condition of the muscular wall of the heart. The prolonged booming first sound is also diagnostic.

In dilitation the action of the heart is perpetually hastened. We hear in auscultating, a quick weak valvular, instead of a prolonged booming sound.

Prognosis.

The prognosis is favorable, or unfavorable according to the extent of the valvular lesions. The murmurs mitral systolic, presystolic, or diastolic, should form a prognostic basis, for reasons already given. In all instances heard a bellows murmur

fearful [illegible] [illegible] [illegible], yet the patient feels no inconvenience, when his mind is not [illegible] [illegible] [illegible] of the existence of this morbid sound and its cause.

Hypertrophy is seldom painful, though causing great inconvenience at times. Dililation is a morbid change, that brings about sooner or later a fatal termination. it weakens the hearts action and may thus, after a long time destroy life, or lay the foundation for other diseases of a serious character. Constant dyspnœa, if depending upon organic heart disease, betokens a speedy termination

Anasarca is an ugly symptom and tells that the end is not far distant. Though by judicious management the deformed offspring sometimes disappears and the patient enjoys tolerable fair health for a considerable period.

Aortic murmurs, obstructive and regurgitant present symptoms of a more unfavorable character than mitral murmurs. The blood accumulating in the left ventricle causes paroxysms of intense suffering, and often produces death, by over distending and paralyzing the muscular walls of this cavity

Lesions of the right side of the heart are followed rapidly by dropsy, which as rapidly destroys life if more than one valve of the heart is implicated, the danger is proportionally increased.

The amount of obstruction and regurgitation and especially the latter, let how much the more is run, and that we long, the wheels of life will clog, and cease to move. When to sum up, we are forced to say, that cardiac valvular lesions with enlargement is an incurable malady, which only asks for time to complete its work and carry its victim triumphant

antly to the grave. Death may be caused by many local disturbances superimposed by the cerebral affection. Thus pulmonary edema, pneumonic congestion, extravasation of blood into the skull and hemorrhages from the mucous surfaces, are so many causes that may lead to a fatal termination. Again a wandering clot may leave the heart, and like a fatal bombshell, scatter destruction far and wide.

Treatment.

The treatment must have reference to both the organic lesions and its complications

The cardiac valvular lesions
— diss call for treatment until
they have given rise to enlarge-
ment of Hypertrophy, being con-
— sidered in its character, does
not demand energetic treat-
ment to remove it. If the
increased force causes the
inconvenience, Pulsatilla, as
recommended by Prof. Ellis
should be given. Violent muscular
exercise, mental excitement and
everything that has a tendency
to stimulate, or urge the heart
to greater labor must be avoided.
A generous and nutritious diet
should be prescribed, and-

incidents and dose etc are taken the patient not being allowed to consider himself an invalid.

When dilitation has taken place compensated, or not by hypertrophy, Digitalis should form our chief reliance - Prof. Shew tells us to use the tincture, giving ten gtt. at a dose three times a day, until the pulse diminishes in frequency and increases in volume.

Digitalis, being a cardiac tonic, does not only counteract the irregular action of the heart and restore the arterial equilibrium, but having diuretic

hydrates calls upon the kidneys to not the loss of a portion of water, and thus prevents it from infiltrating into the areolar tissue and serous cavities.

The neuralgic sensations and tension inside are not suitable agent in this connection. Hyoscyamus and Belladonna are often found useful. A Belladonna plaster over the superficial cardiac region is sometimes beneficial. The diet should not be highly nutritious and moderate, not too serious taken, if the patient

be able, and in fact whatever means medicinal, dietetic or hygienic, that will give strength and tone to the system, must be employed, for it is only by thus acting, that we can hope to stay the ever onward progress of dilitation.

The quantity of liquid ingested should be diminished as it increases the amount of blood and thus distends the weakened walls of the heart. The dry, semi effusion, depending upon cardiac affection, is to be treated by hydragogue cathartics and diuretics

The kidneys being in a healthy condition, generally respond promptly to remedies of the latter class, and they also are often sufficient.

Among the cathartics to be employed calomel holds a prominent place, but must be given in small doses and with much care, for it is a powerful and depressing agent. Bicarbonate Potash and soda combined forms a favorite prescription of many practitioners. The following formulae is recommended by Prof. Rothery for moderate depressing effect.

[illegible] in position, is induced by cardiac causes.

℞ – Yellow Jasmine, Valerian,
Juniper berries,
Cascarilla.
Ext. Colocynth Co. āā gr xij
M. ut. fiat Pilul. No xij
S. M – 1 a day.

When the lower extremities are unusually distended, they may be punctured in numerous places, and the water allowed to escape thus affording much relief. Dyspnoea can only be cured by eradicating the cause. The external perforations are sometimes beneficial.

Pulmonary apoplexy and the accumulation of an unusual amount of blood in the brain liver and kidneys, must be treated by revulsive measures.

Opium, given to short intoxication, is often productive of more harm than good. but the opiates may be used advantageously, to allay pain and procure sleep. for the latter purpose. Chloral hydrate, is a valuable agent, notwithstanding it has been condemned as being a dangerous sedative and contra-indicated, in organic heart disease. I have seen

my preceptor Dr. W. W. Vedder used Chloral in cardiac forms with happy result, the patient awaking after several hours of refreshing sleep greatly benefited, and not being troubled with nausea, constipation and other bad after effects of opium and its preparations.

Lastly the anemic condition of the blood common in this complaint, forms an important indication for treatment. It is difficult to say, in some cases, how much the symptoms are due to this condition of the blood

it may produce precipitation dyspnoea, dropsy and in fact all the concomitant symptoms of organic lesion of the heart.

The chalybeates are highly and deservedly extolled as ~~an~~ agents for removing this watery condition of the blood. The vegetable tonics are also useful, and a nutritious diet and fresh air are very essential.

A Thesis

on

Chronic Hydrocephalus

By

John Quincelle Fiske

Baltimore. Feb. 1875.

[illegible]

be advisable

treatment of the mass

be effected by this drawer,

to anatomical limits.

First, the arachnoid

being seldom attacked, possesses com-

paratively speaking, but slight interest

to us; therefore there is very little

in reference to it. The sub-

arachnoid cavity, lying between the

arachnoid and the pia-mater, is of

great importance, from the fact that

[illegible]

[illegible]

[illegible] the roof of the fourth ventricle.

[illegible] cerebellum and medulla oblongata.

Following the floor of the fourth ventricle [illegible]

[illegible]ication, the aqueduct of Sylvius or i[illegible]

[illegible]rtio ad quartum ventriculum, which connects the third ventricle with the fourth. This third ventricle, [illegible] the median line of the base of the brain, [illegible] with the infundibulum, through

means of an opening called the iter ad infundibulum. These are cavities

ventricle is brought into relation
the greater cavities or intern
of the cerebrum by means of
of Monro. Thus, fluid generated
lateral ventricles of the
have free entrance into and
the central cavities.
Now, these cavities in health, are
filled with a fluid, which is secreted
by the choroid plexus. This very
tenuous fluid [illegible] the flow of
the lateral ventricle, and holds com=
=munication with its fellow of the

opposite side through
Monro. This liquid, in
state, is of very low specific
containing very little or
matter. It is secreted and absorbed
with great facility. Its quantity
regulated with precision
the state of the
during digestion, or when the
atrophied. There is a decrease when
the brain is active or taxed. The normal
quantity existing in the ventricles
about two ounces; but it varies greatly
as has already been stated. In diseased
conditions it may increase to the amount
of a gallon or even more. Hence =

lines, as the watery
humor decreases
this arrangement is
doubtedly
spinal cord from shock
=ensing a watery cushion
them and the encasing bone.
This being true, we are a
block with the beautiful
of this intelligent economy
[illegible] which
permit a vacuum; for when the bone
vanishes in size from any
this fluid, rapidly secreted, fills
at once the would-be space; and

[illegible] essential [illegible]
results could take place from [illegible]
from over-distension or [illegible]
compression.

Hydrocephalus consists in [illegible]
hyper-secretion of the cerebro-spinal
fluid either in the sub-arachnoid
or in the ventricles of the brain; the
latter situation being the most common
seat of the lesion. It is a superfluity
of liquid which is secreted in greater
quantities than is required for its
normal physiological action. Some
[illegible]
-cephalus, where, in incomplete development of the brain, or even in

atrophy.

out a certain amount of secretion fluid to compensate for the absence growth of tissue, or pathological absorption.

Causation. This lesion is due to vitiated, brain structure, mal-formation or to a diseased state occurring during foetal life. Or, the walls, which circumscribe the fluid may be in a morbid condition. Also if the amount from within may become greatly increased. In the instance of the relaxation of the walls, the fluid is poured out in usual quantity, but meeting still with no resistance, it

continues to exude until the condition

[illegible]

[illegible]

[illegible]

other venous impedi[illegible]

increase of fluid, just as [illegible]

tion may occur elsewhere from

obstruction of the portal circulation.

The veins of Galen, for instance

might become occluded. It is

[illegible]

pressure of morbid growths upon the

jugular veins. Tubercular meningitis

causes effusion to take [illegible]

ventricular cavity, but this form of

Dr. Ely does
not state
exactly.

They hold an important place
in the category of
authorities. By far the most
cases ensue from the results of
Rachitis. The bones of the skull
soften and spread. The sutures
expand, causing great gaps,
are bridged over by
and integuments alone; thus
diminishing the resistance of
cranial walls, which, in the healthy
state, would constantly increase.

[illegible] articles.

relaxation [illegible]

case of the [illegible]

are in [illegible]

The hydraulic [illegible]

[illegible]

[illegible] distends the

[illegible]

[illegible]

Anatomical Characters.

[illegible]

water and the cranium between the

dura mater and the arachnoid.

the arachnoid cavity, in the sub-

arachnoid space, or in the [illegible]

exhibit a
spread with great care
unfold as readily
a super-abundance of liquid
the causes
the power of resistance is
the power of secretion; so
remains in the cavities
in bulk.

The distention gradually
in the course of a few weeks
slowly obliterating the co
compressing the brain cortex

sufficient

the cranial box, causes

of the cerebral substance is

fracture is sometimes reduced

thinness of sensor, and often

totally effaced.

the functions of

destroyed, for the cerebral

still in its entirety, having

exchanged its state of convolution

for that of expansion; the fluid

being spread out over a towards

extent of surface, and the

[illegible]

[illegible]

[illegible] arise, when [illegible]

[illegible]

[illegible]ance of the central substan[ce] itself.

The seat next most liable to effusion is the sub arachnoid cavity and when this does take place it must obviously have diametrically the opposite effect to Hydrocephalus Internus expands the convolutions eccentrically, Hydrocephalus Externus concentrates and reduces the size and position, increasing its whole mass towards the

side of the parietes.

[illegible]

takes place in the size of the brain, was [illegible] exerted, and the hemispheres lose one third or one half of their original volume. The older writers found great difficulty in explaining this absorption of brain matter, and the increase of the liquid. Their want of clinical experience obliged them to consider the injury as the exciting cause, and the effusion as a compensation demanded for the otherwise existing vacuum.

[illegible] alteration of the [illegible]
as to size and texture
[illegible]
already been pointed out, undergo
but little change; but the [illegible]
forming the arch of the cranium
are enlarged in every direction,
and this is especially [illegible]
in hydrocephalic patients of
rachitic diathesis. Notwithstanding
this immoderate expansion of the
bones, it is still not sufficient to
meet the exigences, and in con=
[illegible]
between the bones, which are
regulated by the effusion.

[illegible]

[illegible] dilated [illegible]

stamina, and pigmented [illegible]

hair. It assumes a [illegible]

condition; [illegible]

[illegible]

According to the situation of the fluid fluctuation can be more or less distinctly felt. A very singular expression is noticed in the peculiar direction the eyes assume, caused by the pressure of the orbital plates upon them. This continual downward pointing of the eyes is considered quite diagnostic of this disease.

On examination of Hydrocephalus

Internus one will be at once struck with the fact, that the septum lucidum has become obliterated, the foramen of Monro has disappeared, and that the two lateral ventricles have become fused into one common cavity.

Physiology. The fœtal may commence its efforts before birth; and in consequence often interfere with the safe delivery of the child. It is generally unnecessary to use instruments, if the scalp and membranes do not impede their application.

When the head is of normal size

at birth, the approaching illusion is often accompanied by very marked symptoms, often of a serious character. These are: convulsions occuring frequently, sometimes of a severe form, but often nothing more than a strabismus, or a rolling of the eyes is noticed. When the sign of the third ventricle illusion which warrants the observer in surmising the truth. But these symptoms do not always occur in the order mentioned; for the cranial enlargement may be quite obvious before the nervous phenomena make themselves apparent; or the fits may

attracts attention.

number of instances, none of these symptoms make themselves manifest at first, and the morbid condition existing in the brain, gives itself expression only in the general decline of the entire health. It features be the signs and method of its approach the process of nutrition is the first to show sympathy. The child may sucke well, as in fact it generally does, even with avidity; and notwithstanding the regularity in the administration of food, etc

exterior shows decidedly the signs
of waste, and its bodily inactivity the
loss of strength. Partially from the
direct loss of muscular power, and
partly as resulting from the increased
pressure on the top of the head the
child is totally incapable of raising
or supporting the head. Its limbs
are also influenced and are consti-
pated as a rule; but sometimes
diarrhoea does occur. In either
event however the evacuations
present an unhealthy appearance.
With the altered shape of the head
the symptoms now become diagnostic
The patient's face assumes well

a known characteristic expression.
The extension of the eyes in the orbital plates, before alluded to, can be traced upon the observer's notice. The general contour of the head moulds itself into a triangular form. The integuments of the body hang in loose folds and wrinkles, making a most striking contrast with the covering of the head, which is tense and stretched almost to the point of rupture. This tense is suggestive of the most extreme discomfort; and, as a rule, the child can be relieved of its severe suffering only by the advent of

death. But this disease, however is not invariably fatal during infancy, for some cases have been known to enter childhood, and [illegible] of recovery have been reported.

Pathology. Hydrocephalus Externus is caused by a venous hyperaemia and oedema of the pia mater, attributable to irritation, by which the veins of the pia mater fall into a state of relaxation and distension. The enlargement is best observed in the large pairs of veins which return the blood from the pia mater to the

longitudinal sinuses. They beco
overdistended and exceedingly tortuous
in their course. This curious curving
and redupliication is also noticed
in the smaller veins. Oedema of
the pia mater is a very com
cause of venous dilatation. The
transparent liquid is found to
collect in the meshes of the pia
mater, and it is poured out freely
when the venous pressure is
influenced. The fluid is so
effused with remarkable rapidity
thus forming acute oedema of the
pia mater. The fluid, thus e
is either absorbed by the veins, or

it causes death by fatal compression of the brain. But this is very unlike the chronic exudation, which, by its gradual accumulation, allows time for its proper adjustments within its restricted limits. There is also a curious change of pathological import, which takes place in the structure of the pia mater surrounding the blood vessels of some reference to that induration of the connective tissue, which gives rise to an opalescent clouding in the regions affected. This sometimes throws out a film which covers the pia mater, and even the outer surface of the cerebrum

and the bloodvessels which
=ed across the space between the pia
mater and the arachnoid are
marked or covered with this fat.
The cause of the effusion in hydro
=cephalus Internus is still a mooted
question. Authors are not agreed,
and the reasons thus far given, are
not altogether satisfactory. Some
advocate the inflammatory theory
which are often met with in the
pneumonic constitution. Others allege
that while they become thickened
and condensed in certain portions,
they never contaminate the bloodvessels
nor do they affect those in their

immediate neighborhood. Besides we know that these same changes may be found in other cerebral disturbances without the same consequences taking place. Again, the choroid plexus has been made the seat of this lesion. All parts of the unhealthy plexus be placed under the microscope, innumerable very vascular papillae will be at once observed. Now, these papillae are noticed in the healthy condition as well, but the argument in favor of considering them as the exciting cause, lies in the fact that in this pathological state, their increase

is out of all proportion to their normal number: the excess of the proliferation of the papillae causing an undue secretion of the cerebro spinal fluid.

Diagnosis.

to diagnosis [illegible] by Encephalocele [illegible] Fungus of the dura mater. Encephalocele [illegible] be detected, and [illegible] gives a doughy feel. It is localized and not general, and it is not in the least transparent. In the case of a lesion, caused by a fungus of the dura mater

which has forced a [illegible] through the cranium, the roof of the head are [illegible] and the perforation can be easily detected. Irritation is produced by the touch, and manipulation gives the same sensation as does the encephalocel.

Sometimes Hydrencephalus has been suspected, where a disproportion only in developments between the bones of the face and cranium existed, without serious lesion of any kind. Rilliet and Barthez relate a case of this kind, which occured in their very extended

practice, and which [illegible]
to err in their [illegible]
[illegible]
[illegible]
[illegible] of the bones is observed in
[illegible] of richets individuals
will cause but little embarrassment
in diagnosis, if the surface
[illegible]
if the bones be in short, the
cranium will be found irregular
in its development, and
bumps, like irregular [illegible] of
ossification, are found exaggerated
in the middle of the parietal,
and on either side of the frontal

bones. The other signs of the rickety diathesis are generally lax [illegible] and thus aid in a positive diagnosis. Much expression, for instance, as the articular ends of the bones [illegible] the most [illegible] the prominent excrescences along the sternum, &c. Hypertrophy of the brain will now and then assume difficulties. But when we recollect that, hydrocephalus presents different characteristics, [illegible] hydrocephalus is at once excluded. In other cases diagnosis is not difficult.

<u>Treatment</u>: Milk should be persisted in for a long time; but heroic

a mercurial [illegible]

of mercurial [illegible] off the hair. He should

wear a woolen cap.

evil effects from exposure or irregular

perspiration. He also gives from

one quarter to one half a grain of

calomel; but if this acts too

drastically as a purgative, the

exhibition by injection alone

should be resorted to. This treat-

ment, the Patient must

be continued a month or longer;

and if there be signs of ameliorate

reduced.

form a rash

sometime after the exhibition

understood. If there

diuretics may be added

treatment already instituted

a seton may be introduced in

the occiput. When the head is

very feverish and the

restless, leeches may be applied

Professor Wölis affirms that from

personal observation, he has known

of treating [illegible] are [illegible]
bandages and [illegible]
[illegible] Dr. Gurard, [illegible]
[illegible] bones are yielding. [illegible]
about three fourths of [illegible]
wide should encircle the limb
circularly, transversely [illegible]
[illegible].

The second mechanical method
[illegible] the skin and
giving exit to the fluid therein
confined, has been cordially received

Dr. Watson and Cornwall are
advocates of this mode of
and even Dr. West gives
a section in good volume
to be of the external variety
where the injurious has been
accompanied by no active lesion
or disturbance. The operation
itself is not fraught with
danger to the child. The most
favorite location for the puncture
is about an ~~about~~ ~~an~~ inch or
an inch and a half from the
anterior fontanel along the edge

[illegible]

[illegible]

[illegible]

only [illegible]

time [illegible]

[illegible]

and after the operation [illegible]

little [illegible]

[illegible]

or ammonia would be [illegible]

Cold lotion [illegible]

after the operation, if there is [illegible]

inflammation. Internal [illegible]

consists in the [illegible] of

the Iodide of Iron. Cod liver oil

the worm, in fact the remedy of iron and oil a very [illegible] in regular worm infection.

Red earth is very strongly recommended upon the recollection by Dr. J. Greenhill; as this gentleman thinks this remedy sprinkled upon the food possesses a very beneficial action. Than any other [illegible] treatment of the worm disease the vitality is greatly enhanced, if there exists a rachitic diathesis.

[illegible]

[illegible]

[illegible]

warm [illegible], [illegible]

by friction [illegible] of the [illegible]

air, are [illegible].

[illegible] of [illegible] [illegible]

I find in Fromissaint "Clinique

Médicale", that he once employed

these means; but owing to

accidents which fell [illegible]

his own observation for [illegible]

[illegible] years, completely abandoned

this method of procedure

In a case recorded, he employed

Dinchulon water [illegible]

later. The [illegible]
under the following circumstances:
The child was in the act of
taking nourishment when the
little sufferer suddenly
cried wonderfully, a flood of liquid
escaping by the nasal passage
at the same time the head
collapsing like an empty
bladder. A post mortem exa-
mination revealed the following
facts. The convexity

head. [illegible]
hydraulic [illegible]
and [illegible]
along the [illegible]
skull, where the [illegible]
been [illegible]
through [illegible]
base of the skull.

The most modern [illegible]
ments of Chronic Headaches
is for rheumatic [illegible].
From the very mechanism of
[illegible] it is by far [illegible]
to the simple

[illegible] of the [illegible] [illegible] is [illegible] very easily. The degree of [illegible] and [illegible] are [illegible]. The [illegible] of the apparatus [illegible] be [illegible] and [illegible] from the [illegible] patient [illegible]; after which the apparatus can be removed without any re-adjustments. The [illegible] from this style of [illegible] for Dr. [illegible] the following principle without any hesitation: "It is always possible, owing to [illegible] to search for a [illegible]

in bodily and mental hygiene
if we wish to succeed."

The operation of inserting
needle causes but little
the mutilation can not
=lected, and nothing
to close the orifice
no aperture ornament.
needle [illegible]
shape [illegible]

perform [illegible] in these
children attacked with Hydro
=cephalus and the operation [illegible]
proved unsuccessful
instances." Dr Lessore of Leeds
reports two cases equally
successful. "[illegible]
[illegible]
[illegible]
[illegible]

case presents
following valuable facts
performed the operation
child [illegible] of age [illegible]
heart had [illegible]
from a few days after birth
the child was ill-conditioned
emaciated, vomited frequently

median line so as to wound the
longitudinal sinus. No. 1. respirator
[illegible] fluid [illegible]
to subject the [illegible]
to a very great [illegible]
impression. Other [illegible]
thus far a success.
manipulation [illegible]
four days later [illegible]

of three feet [illegible]
child [illegible]
strabismus [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
The circumference of the [illegible]
really diminished.
[illegible] each other.
This was greatly encouraged by
elastic bands. The child's nutri=
=tion improved; but the [illegible]
accumulated with [illegible]
that there terminus a [illegible]
[illegible]
=[illegible]

during
of the treatm
eighth aspirations it
On his third and
after ten aspirations
died: but the same marke
improvements, before death, was
observed. The little patient's
had a circumference of over
inches. "
says Mon. Dieulafoy"

been Pierre [illegible]
great monte [illegible] for the
purpose of [illegible] the effect
the [illegible] had produced in
these [illegible] of [illegible] other
the meninges [illegible] the original
substance. —

Thus the operation [illegible]
[illegible] death. The [illegible]
dicated notwithstanding the [illegible]
results: the deceit not [illegible]
the instrument but in the after
treatment, and in the [illegible]
of the surgeon to [illegible] the

[illegible] of the fluid.
This [illegible]
is well attested by cases of foetal
hydrocephalus [illegible]
having [illegible]
dissection.

I have thus reviewed hastily
and superficially, a subject which
at least, is still clouded in
obscurity, both as to causation
and treatment. It will undoubtedly
continue to form a subject
for active contemplation until
they both are recovered from the
yet unknown, and until its

subjugation [illegible] [illegible] [illegible]
particulars.

[illegible] fulfilled [illegible] more [illegible]
which has been [illegible] come [illegible]
one from time immemorial.

If it appear a weary business to
to those whose office [illegible] to read
and criticise, may this business
prompt them to remember that
the compiler is not benefited
only by compelling obligations,
but the information thus gained
may stimulate his youthful mind
to something higher and grander
for the future than compilations
consume.

Indeed, could they but comprehend themselves with the knowledge that the application and research that this little exertion caused will radiate their own individual good, mutual satisfaction would result.

References.

Maladies des Enfants. Rilliet et Barthez.

Diseases of Children. West.

Clinique Médicale. Trousseau.

Diseases of Children. Smith.

Hydrocephalus Chronicus. Ker

Practice of Medicine. Aitken.

Chronic Hydrocephalus. J. Ramskill M.D.

Pathological Histology. Rudhard.

Pneumatic Aspiration. Bowlby.

Thesis -

Typhoid Fever -

W. B. Beach.

1875 -

11

"Typhoid Fever."

Their name signifies like Typhus. We shall consider, first, Typhoid fever with reference to its Anatomical Characters, Clinical history, Causation, Diagnosis and Prognosis; next the non-identity of the 2 fevers Typhoid and Typhus, and lastly, the treatment of Typhoid fever. Louis, the great Clinician, first introduced this name, "Typhoid". Prof. H. D. Wood has suggested the name, "Enteric fever" which relates to intestinal lesions

characteristic of the disease. Some writers object to this name, because it is apt to convey the idea that the fever is the result of the lesions. Certain lesions of Typhoid fever are highly interesting and important. The first ascertained step is a series of changes occurring in the patches of Peyer. and the Solitary glands, is enlargement from the presence of a morbid product, known as the "Typhus Material". The

patches are elevated two, three or even four lines above the plane of the mucous membrane.
The mucous membrane over the affected patches is of a pinkish hue, and the corresponding portions of the peritoneum are much injected. These appearances are presented early in the disease. They have been found even as early as the second day. The patches nearest the Caecum are first affected, successively, the patches

above. When death occurs in the second week, sloughing may be found in progress. The sloughs are sometimes dark from the presence of blood; again yellow from the presence of bile. Ulceration, which is often found, is the result of sloughing. The Peyerian patches are the seat of the ulceration. Ulceration of these patches follows the same rule with regard to the coecum as sloughing of the same. The process of cicatrization

usually begins in the third week of the disease, and is going on during convalescence. In some cases this process is very slow, and in this way we may account for the persistence of abdominal symptoms, even after the career of the fever is ended. The intestine is liable to be perforated at one or more of Peyer's patches. With perforation is associated acute peritonitis, caused by the escape of gaseous and other contents of the

intestines into the peritoneal sac. The changes described as occurring in the Peyerian patches also occur in the Solitary glands. The latter are the seat of these changes in a large proportion of cases. There is no constant relation between the extent of the intestinal lesions, and the severity of the disease. In this disease we have more or less enlargement of the mesenteric glands. They have been found so large as a pigeon's egg.

Sloughing has been known to occur in them. These lesions are peculiar to Typhoid fever. They are always present to a greater or less degree. They sustain to this disease, a definite fixed pathological relation, the character of which is unknown — Perforation of the large intestine has been known to occur. Ulceration in the Larynx and trachea is found in a few cases. Pneumonia is not an infrequent

complication. Meningeal inflammation is a very rare complication. The walls of the heart, in some cases, are flaccid, and the muscular structure is softened. The endocardial membrane and that of the aorta and the pulmonary artery are stained by the imbibition of blood pigment. The fibrin of the blood is diminished in this, as in other essential fevers, when not complicated with an acute

inflammation. Virchow thinks that in this disease the white corpuscles of the blood are increased. This disease, as a rule, comes on slowly. The time occupied in its development is called by some the prodromic period. Others call it a stage of the disease proper. I am inclined to hold with the former opinion. It is a rule to consider the fever as established when the patient goes to bed.

Achill, more or less marked, cephalalgia, the pain usually referred to the frontal region, mental irritability, with difficulty of consentrating, loss of appetite, Nausia, Epistaxis, pain in the loins and limbs, lassitude and general debility, till of the commencement of this disease. Loosenss of the bowels and epistaxis are of special diagnostic value. Delirium is manifested in the majority of cases. It usually comes on

during the second week, but may not be observed until the 3d or 4th. The first indication of delirium is the inability of the patient to tell where he is on awaking. Afterwards the patient mutters as though talking in sleep. Efforts to get out of bed are frequent. If not guarded patients get up and put on their clothes. Delirium is always greater during the night. In the great majority of cases the

delirium is of the passive kind. Sometimes it is different, and the patient is very noisy. I have seen a case, where great care and strength were required to keep the patient from doing violence to himself and others. Jenner and Gairdner speak of dilatation of the pupils in this disease. Wakefulness is complained of during the first few days. Afterwards the want of sleep may not be appreciated

owing to the mental condition. The patient may seem to sleep, without obtaining any. This state is called, "Coma Vigil". Symptoms referable to the nervous system are often present. Such as picking at the bed clothes. In case of convultions, the cause is supposed to be uraemic poisoning. Anorexia is the rule, but some-times the appetite is good during the disease, Thirst is usually great.

unless perception be blunted. The tongue may be only furred or frosted, but is oftener covered with a thick coat, brownish or blackish. Sordes, or black matter is found covering the teeth and lips after the first week. This is most apt to happen in grave cases. Inflammation of the Parotid glands is some-times seen, resembling mumps. Suppuration oftener takes place in this disease than in

mumps. Diarrhoea exists in a large majority of cases. Some-times the sphincter ani becomes paralized, and we have involuntary evacuations in bed. This is a very grave symptom. Hæmorrhage from the bowels sometimes occurs. This is not looked upon as very dangerous - Tympanitis, tenderness on pressure and gurgling are usually observed - The tenderness on pressure is usually found in the iliac region, and

on the right side. The rose colored spots, found on the skin, consist of papules isolated, usually confined to the trunk. They are a little elevated, and may thus be felt with the finger. They are oval in form, and from one to two lines in diameter. If you press upon them the redness leaves for a time. This eruption is usually seen between the seventh and fourteenth days. It is not always present.

Jenner thinks it less frequent in children than in adults. Should the temperature go above 103°F. which is the temperature on the third day, usually, the prognosis is bad. A high temperature in the morning, say 106°F. indicates the approach of death. The urine is usually scanty, high colored and has a high Spec. gravity. There is often retention of urine in this disease, with the bladder much distended. This circumstance should remind the

practitioner to make frequent examinations of the bladder by pressing on the abdominal walls. In case he finds retention he should resort at once to the catheter. The career of this disease rarely ends abruptly. The termination, like the onset is gradual. In the most of cases, in about 16 days, after taking to bed, a patient may be called convalescent. Relapses of this fever sometimes occur. In such case the patient

passes through the same career as to symptoms as in the first case. After death in such case, two sets of ulcers have been found in the intestinal canal -

Treatment:

The known resources of therapeutics do not afford means for the arrest of this fever. The wet sheet, of late years has been highly spoken of as a means of bringing down the

fever. Niemeyer and other German writers advocate this mode of treatment very strongly. They claim that this is an effective measure for diminishing heat, reducing the frequency of the pulse, tranquillizing the nervous system and promoting elimination by promoting perspiration. The mineral acids are thought highly useful by Richardson and others. Prof. G.B. Wood thinks the oil of turpentine exerts a

curative influence upon the intestinal ulcerations. When the tongue is dry and the abdominal symptoms marked, this medicine is specially indicated. Dose from ♈ to xx gtts., in mucilage. This dose is to be repeated every two or three hours - The symptoms are to be closely watched, and treated as they appear. As soon as you diagnose this disease, the patients hair should be closely cut. Means to procure

sleep should be used. A full opiate will often prove effective. Should this fail, Chloral has been tried with marked beneficial effects. Tympanitis is treated by turpentine enemata. If this fail, a Saline laxative may be given. Stupes to the abdomen are also very useful. Should perforation of the intestine followed by peritonitis take place, the small hope of successful ~~treat~~ treatment, depends upon

the free use of opium and means to support life. Intestinal hemorrhage calls for astringent treatment. Tannic acid will answer. Quietude is to be rigidly enforced. Hygienic and supporting measures are the most important part of the treatment in Typhoid fever. The sick room should be ventilated as completely as possible. It is advisable to change the bed and body linen daily. Among the supporting measures, Alcoholics and

alimentation are first. The supporting effect of alcoholic stimulants is directed to the circulation. Should the pulse be above 120 pr. minute, this treatment is indicated. The tolerance of alcohol in this disease is notably greater than in health. In convalescence from this disease, the diet should be guarded. As soon as the strength of the patient will permit, allow him to walk out of doors.

guarding against much muscular exertion. There is, even in this stage of the fever danger of intestinal perforation.

1875

An Inaugural dissertation.

On Opium

Respectfully submitted to an examination to the Provost Regents and faculty of Physicians of the university of Maryland for the degree of Doctor of Medicine

By

Silas Jones

from York Co. Penn

Opium.

It is uncertain at what period this great and valuable stimulant narcotic was first discovered by mankind. The history, and account of it as far back as we can trace it, or that it appears to have been in cultivation even

sion that contains
Opium in the dregs of
old, sour emptied or
a Stimulant secretion
for the sake highpro-
-ator. Thorbourne Gi-
-eosidic and Plinny. There
are two varieties of the
plant the white and
the black. both of which
afforde Opium. but
it is said to be chiefly
procured from the former
er by incision from
the possible capsules

of the hieroglyphics which
indicate Tuthmes Bunar
Egyptian Emperor, the
Pharaoh which is found
in Exodus, is said to be
the most logical in
yielding the larger
proportions of Worship.
It is important that
not only good Christians
at least approaching
to consistency should
be kept for internal
use or for manifesting
those inspirations

The strength of which depends on the opinion, and it would be impossible to have any fixed idea of this work is yet extremely conducive and so feasible it with certainty of obtaining the peculiar effect in any degree desired.

The inferior kind could not be admitted into the country nor to be employed exclusively

by the manufacturer
for the purpose time
of Quinine. Quinine whe-
ther in the solid state or dis-
solved in water or alcohol, pos-
sesses these physical properties
but over more of which it may
be frequently recognized. They
are more or less brown colour,
a remarkable mild, mucilaginous
odour and a bitter taste. It
turns the colour of the ordinary
tinctures of the alimentary
canal if in the short time it remains
in such quantity in the plants-

liquors is great searching the biting, which others however frequently remark it. Quinine is unquestionably the most important and valuable remedy of the Materia Medica. We have for other medicines one or more substitutes but for quinine we have none. At least in the large majority of cases in which its curative and beneficial influence is required. Furthermore it is applied with the greatest success in the relief of maladies of every day occurrence some of which are attended with much

acute bronchitis, the
circumstances with which are
necessary here to enumerate.
consists in giving opium, with
calomel, repeated by any of the
articles of the materia medica
physiologically adapted to
counteract the morbid
symptoms. The remote and predisposing
causes are to be sought for in
exposure, intemperance, and
various disorders of the bronchial
tubes and gastro-intestinal
canal. Under the circumstances
the opium may be given with

great benefit and after it
effects. Thus it gives the nu-
ous pulse and to remove the
sleepiness, which like a dark
cloud gathered in the horizon
is ever and in the morning
table. Thus I wish to become
clear, pleasant. Should be given
an hour or two before the usual
hour of retiring. Thus
in order to allay the
state of excitement
in which it is. The primary
effects of opium are soothing

is a stimulant increased
the pulse in frequency the
countenance is flushed the
eyes bright and the mind
filled with cheerful images
The secondary effects are
drowsiness depression of the
cerebral activities giddi-
ness and confusion without
mental languor & exhaustion
after the first stage of excitement
has subsided. Strychnine produces
narcotic convulsions and anti-
narcotic. The countenance
is commonly pale and cold

rate in a prepared and profound sleep but it has been observed flushed and excited. The breathing is generally slow except in severe cases from the first. In the long sleep which follows recovery from the asphyxia appears the respiration is remarkably slow the exceptions with the exceptions of the respiration which in some fatal very slow and shallow are diminished

and the bowels are generally inactive, but the cases are recorded in which tuberculous and other cases were present. Sanitary is a remarkable recovery from the first but the second case is among the early signs of recovery. Opium is used in all part of the world. Opium is habitually employed by many with a view to it.

exhilarating and anodyne influence. This is particularly the case among the race of the Mahomedans and Hindoos — who find in this narcotic the most pleasing substitute for the alcholic drinks which are interdicted by them to their religion. Opium is at present more frequently prescribed than perhaps any other article of the Materia Medica.

Opium is rendered evident by its extensive applicability to the cure of diseases. It relieves pain more speedily and more effectually than any other known medicine taken into the stomach. Among the complaints in which it proves most serviceable in this way is delirium tremens or the mania of drunkard. Opium

Opium produces sleep in two ways first by its direct operation on the brain secondly by allaying that morbid nervous irritation upon which wakefulness ofttimes depends.

Opium is a powerfully antispasmodic It therefore seems that the active principle of this great stimulant narcotic is conveyed into the circulation and operate on the brain and probably upon the nervous system at large.

1875

Inaugural Dissertation.

on

Acute Pleuritis

by

A. C. Stevens.

of

Georgia.

Acute Pleuritis.

Of all the acute inflammatory affections the one under consideration is probably by far the most frequent Having its seat as its name implies in the pleura. The pleura in its anatomical character is essentially the same as other serous membranes it forms a shut sack or hood over and around each of the lungs and in a healthy or physiological condition it secrets a thin viscid fluid serous in character This fluid serves to lubricate and prevents friction in the constant rubbing together of the pulmonary with the costal

pleura during the constant never ceasing movements of respiration.

The pleura is a very thin transparent membrane. it has no visible blood-vessels, it recieves its nourishment from the minute vessels lying just beneath it in the subserous connective tissue.

The first changes noticeabl in the pleura in acute pleuritis, is hypertrophy engorgement and congestion of the capillaries laying beneath and to a certain extent ramifying in the membrane itself. In this state of congestion the membrane becomes thickened and opaque.

The normal secretion of the membrane is at first reduced in quantity probably entirely suppressed for a short time. This suppression will last only for a few hours and will be followed by a hypersecretion of serum, which will be streaked with fibrin. As to the amount of this serofibrinous fluid exuded will of course depend on the extent of pleura involved and in the character of the inflam-mation as well. If the mem-brane be examined closely in this stage. it will be found to have slight abrasions on it, caused by the rubbing together of its two

opposing surfaces during the first of the congestive stage. Later these abraded surfaces will be found granulating. These granulations will serve as a medium through which the serofibrinous matter that has been exuded will become organized and form the bands of adhesion so often found to exist as a sequel of pleuritic effusion. Sometimes the two pleurae become closely adherent to each other for a considerable extent of their opposing surfaces. These bands of adhesion at other times are found to be undergoing

a kind of degenerative process; in one case they will be fatty in others calcareous. The former of these is probably often reabsorbed The latter is never likely to be removed in this way. It may however excite suppuration and be thrown off in this way. If the quantity of fluid be excessive and nature's efforts at repair be slow and ineffectual it will often degenerate into a puriform mass which, if not removed, either by art or nature, will of course cause the patient to yeild sooner or later.

Pleuritis may be divided into three stages; First, Stage of engorgement or congestion: this stage will extend from the very commencement of the inflamatory process up to the begining of effusion. The second will be that of effusion and will commence with it and extend up to the time that it reaches its maximum quantity. The third stage that of absorption will embrace the remaining time until the whole of the debris of the two first stages is removed. As to the length of time each of the stages occupies

the first is usually the shortest, lasting only a few hours in some cases, and never more than one or two days at most. The second is usually about a week. The third, about two weeks and will vary probably more than either of the other two. So it will be seen that the common time in which pleuritis runs its course is about three or four weeks; and when it lasts longer than this it may be said to have become chronic

Causations of Pleuritis are either traumatic or idiopathic. The traumatic causes are such

agencies as act from without the system, as wounds & bruises of all kinds. Heat, cold, and in fact all external causes from whatever source they may come.

Exposure to wet & cold are probably the most frequent causes of it; we have reason to believe that two thirds of the cases are due either directly or indirectly to these causes. The idiopathic causes are such as exist in the system: for example blood poisons, uraemia pyaemia &c. Statistics show that it is more frequent among the male than among the female sex

This is most probably due to the fact that man is more exposed than woman to the inclemencies & changes of weather ....

Symptoms. Pleuritis has no well marked period of invasion. It generally begins without premonition; in a few rare cases it is preceded by a slight soreness in the side for two or three days previous to the attack. It is often ushered in by a chill or by chilly sensations. Pain in the side is nearly always too well marked a symptom to be overlooked, especially in the begining of the inflammatory process.

It is lancinating in character & is increased by laughing, coughing and by taking full & deep inspirations. In this Stage the patient will usually lie on the affected Side so as to prevent respiratory movements in it as much a possible. The pulse is usually full and incompressible, also increased in rapidity. Temperature and the Respirations are both raised above the normal Standard. Appetite is generally wanting, or atleast very much impaired. Thirst is also very great in most cases, especially during the height of the febrile Stage.

As the second stage comes on the temperature and the pulse will both assume more nearly their normal standard. Respiration may be more frequent than in the first stage, caused by the pressure of the fluid on the lung. but will usually be less frequent if the effusion be not large. As the febrile symptoms abate the appetite will generally improve. Physical signs will differ in all three of the stages of Pleuritis. Ascultation in the first stage will illicit the friction sound in most cases. Percussion in this stage will

rarely be of any service since the engorgement of the pleura and the sub. pleural connective tissue is not sufficient to produce dullness. Sometimes however by using much care we may find dullness in a certain numbe of cases where there is much engorgement. In the second stage, also in the third before the fluid has been too much absorbed, on ascultation we will hear bronchial respiration more or less marked in proportion to the quantity of fluid in the sack. Percussion will now give flatness instead of pulmonary resonance over the fluid;

and if we percuss above the fluid we will have increased pulmonary resonance. If the fluid be of sufficient quantity it will sometimes cause a bulging of the side that will be perceptiable to the eye and still more obvious by measurement.
Comparing the vocal fremitus of the two sides is probably the best physical sign in all stages of pleuritis; this will not however always be found. Diagnosis.
After having studied the symptoms and the physical signs, it is evident that the diagnosis of pleuritis; will not be very difficult.

The only diseases with which it is likely to be confounded are Pleurodynia & Pneumonia.

From Pneumonia it may be distinguished by the friction sound of pleuritis being wanting in pneumonia. Crepitant rale of pneumonia is wanting in pleuritis Rust colored Sputum in pneumonia as compared with the white frothy Sputum of pleuritis.

Dullness on percussion in pneumonia a want of it in pleuritis especially in the first stages. and after effusion has taken place: the points of dullness will change by causing the patient to assume

different positions which will not be the case in pneumonia.

Pleurodynia may be distinguished from it first by the want of febrile symptoms. also by the friction sound of pleuritis and the want of it in pleurodynia Pain will not be increased by taking a long deep inspiration in pleurodynia as it will in pleuritis &c. Prognosis is favorable in all cases of uncomplicated unilatteral pleuritis. Bilatteral pleuritis or unilatteral cases complicated with pneumonia, bronchitis or phthisis, are not near so favorable. Age also modifies

the prognosis. Children under one year of age and also the very old bear it illy.

Treatment; In the very onset of the inflammatory stage antiphlogistics of all kinds will be in place. Bloodletting, either general or local, in well selected cases will be highly advantagious Saline cathartics to keep the bowels sufficiently open will be always applicable Anaemic patients should not be treated either with bloodletting or by too active purgation. Anodynes are remedies of paramount importance in the treatment of

this painful disease, and should be given freely to quiet nervous irritation and by this means allay pain. Among the remedies which deserve special notice in the treatment of pleuritis, Opium & its preperations will rank first and they should be given freely in all cases, taking care not to narcotize the patient by their too free use. If by it the hearts action is not controled Aconite & Digitalis will be best suited to meet this indica-tion. Some recommend cold cloths or ice bags to the side. This I think rather hazardous

and would much prefer heat in-stead of the cold, especially the ice. Dry cups are among the very best agents we have in all cases; they serve the double purpose of bloodletting and counterirritation and will rarely be misused in any case. In the second stage or that of effusion the indications will be to check further effusion and the remedies already refered to will best meet this indication. Blisters to the side will now be of great service in connection with the others just refered to.

In the third stage or that of convalescence, Tonics nutritious diet & fresh air, taking the precaution not to expose the patient to drafts of cold air. In cases where the effusion is so large as to compromise life by its pressure on the lungs or other vital organs, it will be proper to remove it by introducing a trochar and canula, and allowing the fluid to escape or better by drawing it off by suction. The after treatment will be tonics good food, keeping his bowels open & a trip to Georgia where he will get well and remain so if he only vote the democratic ticket.

A Thesis
On the
Medical Connection
of Medicine
Being
A Thesis
for the
Degree of Doctor of Medicine
in the
University of Maryland
Session of 1874 & 1875

ts, it is a custom adopted by the Faculty that each candidate for graduation be required to present a written essay on any subject chosen from the Medical Science, I propose to submit the following subject

The Modus Curandi of Fevers.

It is with any privilege, or desire to assume any, as important a character in the Medical ranks as that of a Hippocrates, or his contemporaries, but simply my leave to submit the following as an essay from a student of Medicine. The causing or of the treatment of Fevers

field of the medical science, it has been truely difficult for me to alight upon a subject, that would in any respect conform with my delight, to compose an essay for the scrutiny of older, and wiser men; though as the time is fast approaching, when my essay must be considered, I find that my labor must be active. It is truly with much delicacy that I attempt a composition on a subject that has been discussed with so great enthusiasm, as the one I now propose. There are many theories, that have been advanced as to the action of medicines, and of them all, of which I have any knowledge, I am not perfectly satisfied in my own mind.

consequently in suggesting an independant theory, if I fail to make myself clear, I only hope that my errors may be looked over. In the outstart I shall assume the theorem, that all medicines act primarily on the nervous system. By suggesting this theorem, I do not propose to enter minutely into the anatomy, or Physiology of the human body, but simply to notice those points belonging to either branch, that are essential to the requirements of our theorem. We know that the nervous system is the controling power of the human organism; this fact has been plainly proven by Physiologists,

and is not as I think, to be doubted by any sane mind. So as impressions are made on the sensory nerves, just so are they persuaded to give command to their subordinates; which when summed up, amounts to every other organ in the body. We have neither time, or space at our disposal just now to review the different theories on this subject, but simply to propose facts, as I regard them, as they propose themselves to my mind. With readiness do we admit that as vegitables differ both in their botanical relations from each other, just so they differ from inorganic substances chemically; hence as they are different in their relationship

just so, may they produce different impressions on the human organism. Medicines are divided and classified, not according to their composition, but according to the effect they produce upon the system, as follows, Those which act topically, Eccritics Haemetics and Neurotics.

We will first consider those medicines which act topically. As life is sustained by assimilation which we are all willing to admit, we may see at once that whatever may be applied externally, in the form of plaster &c. will be, or at least, a portion of it absorbed, and it may, or it may not enter the blood-vessels, and if so as the nervous

system is supplied with its blood, it must share a portion of the absorbed material, and when this is done the command is given from the great nerve center to its subordinates, whichever they may be, according to the impression that has been produced by the material that has been borne to her by the vascular system. This latter remark broad, as it may seem, may be considered as erroneous, from the fact that it has not been considered that the true skin is supplied with both nerves and bloodvessels, but on thinking for a moment we will observe that neither of these two great systems terminate until they have supplied every

molecule in the body; and as the nervous system is every-wheres linked together, an impression can be borne as well from the heriphery to the great center, as it can from a deeper seat; consequently as it has been proven that some medicines act directly on the greater, or more voluminous nerves of the body, and those on the heriphery being branches of the great trunk, it necessarily follows that the branches may be impressed, just as the trunk, in proportion to its capability, to recieve the impression. Hence the conclusion is, that when a part is effected the nerves supplying that part must be affected also.

It is our next to notice those Medicines, which are said to act on the Secretions, or Excretics. Of this class of Medicines, we shall have but little to say. We would simply look for a moment at the way by which Emetics, which are classed under this heads, act on the human system. First, after the administration of one of this kind of Medicines, we do not expect to find that they produce even; an unpleasant sensation until there has been time sufficient for the absorbing process to have gone on, when as in the other case the nervous system takes the impression in her hand, and she performing her function according to the princi-

fole that Nature has allotted for her, bears the impression to the great center where a sympathetic command is given to her subordinate member, viz. the Stomach, and in, or through this sympathetic system between Stomach and brain is aroused, and the contents of this sympathetic member is expelled.

Haematics, or those medicines which are said to act on the blood. It is true that there are many medicines that have their principle action on the blood, though as chemistry has drawn aside the veil, that long held the Medical world in a wilderness of obscurities, we now know the composition of the blood, and we know of no medicine that

that exactly corresponds to any of the constituents of this blood. It is stated by some writers that Quinia approximates very closely to some constituent that goes to make up the blood, and it is argued that Quinia used as a medicine supplies, or expells some-thing that is foreign to the blood in its normal state. And from the argumentation that I have observed on this subject, would be inclined to lead me believe that its action is primarily and entirely upon the vascular system; though this does not coincide with my opinion, from the fact of having realized its effects on my own system

and having observed closely its effects upon those to whom I have frequently administered it. How are we to determine when our patients are effected by this drug? Are we to keep up the administration of Quinia until we may have time to gather our chemical apparatus together, and make tests by a long and tedious process to find if any change has taken place in the blood? If this were a rule in the Medical Profession, there would be more of our medical men expire in the next ten years than could be resupplied in

in the next forty, and all starve to death for the want of bread. But let us look at it in a different light. When we find our patients complaining of a roaring sensation in the head like the noise of a running train, or bells ringing, deafness &c. It is then that we may know, that our medicine is acting, and not positively until then, though most of us are satisfied before we have produced these unpleasant sensations. It is now for us to consider what produces these unpleasant sensations. Is it an increased amount of blood thrown

to the head that causes these symptoms? We would answer this question in the negative, for if this were true, it being administered in as large doses as it frequently is, would produce neuralgia, which it tends to allay; congestion of brain, Epilepsy, Syncope, coma and lastly death, as a consequence, though this will not do; but it is most probable that the nerves are acted upon directly, as we know the auditory nerves must be affected, in order to produce this impression on the sense of hearing. When after the nervous System is affected by this medicine, we are willing

to admit that the blood may be acted upon, or altered in its character by the Quinia, and we think that this rule will hold good in the administration of all Alteratives, or Catylitics, just as we believe the blood cannot be altered in its character until the nervous system is acted upon anteriorly.

The next and last division that we shall notice, is that class called Neurotics, or Nerve Medicines. I can not see the propriety of this term in any other way than that Medicines of this class have a permanent effect upon the

nervous system. I think that with little delicacy all Medicines might have been classed under this head, and by thus classifying; it would have been simply necessary to have made a difference in the dose and strength in order to have produced different effects ~~on the~~ upon the organism.

Of all the medicines contained in the Materia Medica, it is under this head that are found those articles, which have many times given reputation to the undeserving, and unskillful Physician. It is to this class that belongs medicines that non

fortunes for the Quack, and gathered the confidence of ten thousand patients at his hand by the unintelligible use of Opium or some of its preparations. It is to this class that belong those drugs that have thousands of times caused a halo of the brightest remembrance to spring to the bosom of parents to eulogize their Physician, and sound his name abroad for having done so much as to perform the most miraculous deed of relieving their agonizing child, and soon restoring it to its normal condition. Often when the mind is almost

wrecked, and obliterated as it were, with delirium from exposure, or want of repose; what medicine on earth is more appropriate than some one that may be gathered from the wide field that is represented by the simple term Neurotic. This is quite an expressive term, and in its application here covers as much important ground as most other words of the English language. When the whole system is laboring under the auspices of the severest agony, and even when grim death often bids man to march forward to the thresh-

hold of Eternity, the simple administration of a Narcotic detains the march in this direction, and the agony before realized, is now converted into gentle repose, and probably when the sufferer awakes from his dream, all pain is cast off; and health has superseded. We are not then to come with funeral notes stating that there are no means of relief for pain, but fortunately for suffering humanity, there has been provisions made by the wise Being, to afford comfort, by the simple introduction of the preparations of

Nature, classed under the head of Neurotics. It must be admitted that the Nervous System cannot exist of its self, though it is supported by all other parts of the body; yet other parts cannot exist without its nervous supply. Now to conclude, we may simply state as before that as the vascular system bears nutriment to the nerves, it may bear the drug, as it is absorbed by the blood vessels to the nerve ganglia without affecting any change in the condition of the blood, so as to materially change it. This constitutes all that I shall have

to, I, and in conclusion,
I would simply remind
my critics of the fact
that I have completed this
Essay in my name for a
Medical Student, Class
of a Medical Instructor

Thesis

on

Cholera Infantum

by

Edward D. McSwith

Class 75

[illegible]

[illegible]

[illegible] independently or the contrary

[illegible]

American mind, as a peculiar epidemic

[illegible] confined to the United

[illegible]

[illegible] European mind, [illegible]

[illegible]

[illegible]

[illegible]

compared to the [illegible].

Having [illegible]

[illegible] to interview [illegible]

quaker physica[illegible] Dr. [illegible],

[illegible] [illegible] [illegible]

Government to take [illegible]

large tribe of indians, on the

northern frontier. I have [illegible]

from him, that the disease is

almost entirely unknown to them.

A fact which points to the

[illegible], that it [illegible]

[illegible] of the [illegible].

[illegible]
in a [illegible] out, more
[illegible], accom-
panied with a [illegible]
and a great [illegible] of the
temperature of the body, followed
[illegible] and collapse.
It generally occurs in children under
2 years of age, during the [illegible]
of summer, and [illegible] improper hygiene are [illegible]
[illegible].

Cause. The most [illegible] cause
is the severe heat of the summer, and
it is during the summer months
that [illegible] time [illegible].

It appears scarcely to exist, when the thermometer is at sixty degrees Farenheit. But when it reaches eighty-degrees, it is very prevalent. Cases occur from the month of March to October. The maximum of frequency, and severity corresponds with the degree of heat, and is therefore most prevalent in the months of July and August. An atmosphere loaded with noxious vapors, especially gases arising from animal, and vegetable decomposition, or an atmosphere vitiated in large assemblages, and in personal attendance, are one of the most frequent causes. Bad drainage and

contaminated water seems to influence the disease. Cases occur rarely before the period of dentition. It may occur synchronous with the development of the teeth. It is one of the most diseases of infancy. The disease occurs more commonly under two years, and at this period there is a great functional activity, and rapid development of the intestinal follicles, and the peculiar liability, to Cholera Infantum at this age should be attributed to this cause, rather than that of dentition. In the artificial food, especially those of a vegetable, and farinaceous

nature which cannot be digested during the second year. I have known the calves to have been fatal to a learned Professor, on eating fruit, such as, Black-berries and Currants. I think one of the chief causes are, on account of some parents, weaning their offspring in the heat of the summer. Before weaning from the maternal milk, he invites of other nutritious articles of food.

Fifth. According to the statistics, the males are affected much oftener than females

Anatomical character. The ani

essential as the development of the fetus, and the vital actions.

There are no evidences of Gastritis having existed, or of the liver being affected. If the infants survive the first stage, and die in convulsions afterwards, then you may find the evidence of Enter-Colitis; a fact which will warrant that the disease may be found in Entritis. The brain is rarely affected, but when it is you will find the Cranial Sinuses, veins, and capillaries engorged; or there is a transudation of serum upon the surface of the brain or in the cavities, the cerebral con-

thetic plaster, and [illegible]
in the lower large-motor nerves,
the intestines are paralyzed. Rosenthal
states that if the large motor nerves
of the intestines be paralyzed, you
will have a copious discharge resembling that which takes place in
cholera infantum. It must be
[illegible] the relaxation of the muscles
of the vessels of the vessels of the
intestinal canal. Rikfaw Rutty,
who of foreign writers, that treat of
this disease, [illegible] divide into
four stages; in the first stage
it softened without any lesion of the
digestive tube, being in the stomach

[illegible]

the mucous membrane [illegible]

and especially its follicles [illegible] -

rectal is diseased, [illegible] the rest

is healthy, whilst the follicular

glands, or mucous membrane is

diseased; [illegible] in having the bad [illegible] -

intestinal tube, is not the seat of any

[illegible], [illegible] [illegible] in the

present state of our knowledge, even

[illegible] [illegible] [illegible] [illegible] that

they are not sufficient to explain the

[illegible] of the complaint.

Dr. Parker, in a Paper read before

the [illegible] Medical Society

February 4. 1857, says:

occurs [illegible]

[illegible] vomiting, and diarrhoea, a [illegible]

[illegible]

intestines to contain, more or less a [illegible], resembling light [illegible] and matter, and the stomach containing a fluid resembling a thin gruel. The walls of the stomach are natural, and that the natural lining is a little to easy to remove, the natural lining of the small intestines, and sometimes the large intestines.

Being in a semi a state, the walls of the intestines are almost translucent, bloodless, and apparently

tion, [illegible] the [illegible]
[illegible], and appendages [illegible]
are very prominent, resembling [illegible]
almost like beads when the sun [illegible].
But, as the [illegible] are [illegible] in
the warmest weather. It is difficult
to state, rather this is due to the
disease or to the calorific change.
Six [illegible]. This disease begins
[illegible] the [illegible] [illegible]
[illegible] [illegible]. In the [illegible] it
[illegible] [illegible] a [illegible] [illegible],
that of simple diarrhoea. The
diarrhoea is [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible],
sometimes being so profuse as to

soak through the diaper, wetting the nurses lap, and in some cases leaving no more stain than that of urine. The odor is peculiar, not fecal, but musty, or like [illegible] meat and not offensive; commonly the stools are almost odorless towards the last. There is irritability of the stomach, which increases rapidly the prostration and danger. [illegible] is swallowed by the infant eagerly [illegible] [illegible] immediately afterwards. The appetite is lost, but the thirst is intense. Cold water is especially taken with avidity, and if the infant [illegible],

it cannot sleep it matters but in order to relieve its thirst. The tongue is moist at first, and then covered with a light fur. The pulse is accelerated, and exceedingly rapid, ranging from [illegible] to 150 per minute. The urination remains normal, or [illegible] it is [illegible] at first it [illegible] but soon becomes [illegible] and [illegible]. It is [illegible] that the abdomen is sunken, but not tender on pressure. The urine is scanty, containing the [illegible] the albumen, the [illegible] and [illegible]. The physiognomy is somewhat changed

[illegible] suppuration [illegible]
[illegible] head, thighs, and legs
[illegible]
[illegible]
of the muscles which close them.
On account of the great emaciation
[illegible]
[illegible]
and the [illegible]
When the pulse rises to 140, and the
skin becomes cold, if the disease is
not soon arrested, collapse soon
takes place, the [illegible]
[illegible] condition, and the
end of the child's sufferings.
Prognosis. This disease is easy,

discrimination, by its symptoms and

[illegible] and

[illegible]

[illegible]

[illegible] Tubercular [illegible] little

[illegible] stupid, and nervous

[illegible] the [illegible]

[illegible] and [illegible]

[illegible] [illegible] from

the [illegible]

[illegible]

[illegible] Pitti [illegible]

[illegible]

[illegible]

by its pure watery discharges. Vomiting,
thirst, [illegible] and the [illegible]
serve to distinguish it [illegible]
[illegible] affections.

Prognosis. A [illegible]
is [illegible], in this disease, [illegible]
not taking sufficient notice of the
danger, and [illegible]
[illegible] the [illegible] of life.

A prognosis should never be
expressed without sufficient quali-
fication. [illegible]
[illegible]
the occurrence of [illegible]
[illegible] say that the [illegible]
is not in danger at [illegible]

the evacuations increase, it [illegible] in this
and finally the infant becomes extremely
weak, may pass into Entero colitis. Death may
occur in twenty-four hours in a state of
collapse from exhaustion.

Treatment. The first part of the hygienic
treatment. If you are called to see a
child in first stage, you should advise
the mother to take the child out of the city,
as soon as possible, to some place anywhere
in the country, and this will often suffice
to cure. But if it is impossible for the
mother to take the child from the city, then
you should have it removed from the
house into the open air. You should next
direct your attention to the state of the

[illegible]

a medicinal, and as a tonic. Little
stimulant is consistent, recommended in
these complaints, especially where
much vital heat, pain, debility, and
are urgent. The diet should be simple, but
nutritious, to be given in small quantities
and at regular intervals, it should
be light, dry, and with some condiment
particularly, bitters, and tonics, and fruit
are highly recommended. In a state of
convalescence we should endeavour to build up
the debilitated by tonics such as
Quinine, Phosphate of Iron, etc. Complications
treat them as the case, but taking care not
to depress the system.

Edward Pickett

A Thesis

on

Diphtheria

by

Samuel Hahn

1875

Diphtheritis - Diphtheria.

In considering the almost endless list of diseases which afflict the human race I found no difficulty in selecting one, which would form a [illegible] for a thesis.—

Though not confined to any [illegible] or to any particular season of the year yet it is met with most frequently during the fall and winter months. I refer to a condition which manifests itself in [illegible] Angina Diphtherica.— In considering this affection I deem it necessary to touch upon its [illegible] its pathological [illegible] how it is [illegible] which is its cause.

[illegible]

[illegible] mucous membrane of the [illegible] which [illegible] its results the formation of an adherent [illegible] membrane with infiltration and swelling of the sub-mucous connective tissue. According to a number of the authorities this is nothing more than a [illegible] of the mucous membrane in consequence of [illegible] of the parts.—

Now as to the causation of this condition the authorities differ. The older as well as some of the younger practitioners hold that diphtheria is a purely local affection the other [illegible] the result of such a local disease; this is a matter of no [illegible] with regard [illegible] in kind;

that the thread [illegible]

[illegible] and its [illegible]

involving the whole organism; these [illegible]

dered mild cases; while in other cases the poison

[illegible]

[illegible] of the [illegible] in the blood and that [illegible]

constitutional [illegible] which are [illegible] of

pyaemia with its phenomena.

An other theory is the following: A miasm in the

[illegible] organism [illegible]

[illegible]

e latter into the blood produces primo causa a con-

stitutional disease having as its consequence the

[illegible] mentioned local manifestations.

The third theory is that of the [illegible]

[illegible] theory. A [illegible]

on its membrane, an ulceration [illegible]
foundation - detritus is produced, [illegible]
and soon the constitutional symptoms appear.

Clear as the manifestations of it may be, yet nothing is easier either entirely to overlook the dis[illegible] or often a superficial examination confound it with other diseased processes. - Undoubtedly many a well informed physician has been misled, when the affected symptoms did not directly lead to make an examination of the diseased parts, or even to consider such an examination entirely superfluous, or again failed to make a proper differential diagnosis. - Are which are the conditions which might mislead us?

I think they are the following:

Membranous Croup; - Exsudation occuring with follicular [illegible]

suppuration in phlegmonous angina; — and lastly [illegible]
[illegible] during the existence of [illegible]
a disease though rare in infancy: and childhood
is not unfrequently observed in adults.

The greatest difficulty however is the dif
[illegible] diagnosis between croup and diphtheria
cast their membrane; but each has his characteristic
symptoms. While croup is a disease almost if
not entirely confined to childhood, Diphtheria
met with all ages. It is true that both have a
tendency in common to the formation of a pseudomem
[illegible] upon [illegible] directions and
[illegible] but it [illegible]
[illegible] the former invades the larynx first, the latter
the pharynx, from here it extends upwards into
[illegible] and mouth, but rarely into the trachea; an other
difference is the co= and adhesion of the membrane;
[illegible] croup [illegible]

very easily [illegible]

[illegible] the [illegible]

united so closely with the [illegible]

render it almost impossible [illegible]

[illegible] involve the submaxillary and cervical [illegible]

as in diphtheria nor are there any renal symptoms

present; and finally the penetrating disagreeable and

fetid odor of the breath is in croup absent.

As mentioned above diphtheria might

mistaken for follicular inflammation [illegible]

The deposit upon the tonsils can be easily removed

because it is merely pus derived from the small ulcerations

seen upon them which are so frequently found in

tonsilitis [illegible]. The membrane forming the

deposit is exceedingly thin and delicate.

Lastly as already stated a herpetic eruption may

be confounded with diphtheria [illegible]

account of the swelling of the [illegible] glands which [illegible] herpes is an acute dermatitis the i[illegible] situated in the superficial layers; numerous [illegible] tions appear, which soon transformed into [illegible] their contents form a small scab.— This same process may be observed on the tonsils, the uvula and their surroundings. [illegible] scab is formed, but in their stead a whitish [illegible] of plastic exudation [illegible] and later appears. It is this exudation which [illegible] in matters [illegible] for the fact that a [illegible] herpes appears after burns of the body, but on [illegible] fingers.— Only considering all these [illegible]

the true Diphtheria.

The next thing for us to do is to ascertain [illegible] phenomena present themselves and how they are brought [illegible]. The patient usually has a slight fever, com[illegible] [illegible] of a sense of weariness, is apathic, shows [illegible] difficulty in swallowing, at times has a nasal twang [illegible] if the disease has existed [illegible] the peculiar disagreeable odor of the breath, the half open mouth, the copious flow of tenacious saliva and the [illegible] the mouth and throat [illegible] make an accurate diagnosis. [illegible] all of this symptoms do not present themselves [illegible] [illegible] serious trouble in the throat.—

[illegible] not always being the primary seat of the affection. I do not consider it contraindicated to [illegible]

the uvula with a pair of forceps and drag it upwards
for not unfrequently a diphtheria commences in this situation.

Prognosis

[illegible]

[illegible] considered. [illegible]
more liable to succumb to this disease than
[illegible]
[illegible] practice; the intensity of the disease in epidemics
[illegible] the character of the invasion;
[illegible]
[illegible] larynx is involved [illegible]

Mem. xlvi

ill recover while in current deep

case must be considered no

disease is a symptom from

bected; a bad symptom is the

d from the mouth and nostrils.—

Now all these facts have

ll probable recovery of the patient

difficult enough, but still more difficult is it

[illegible] of the [illegible] or disturbances of vision.

[illegible] indeed [illegible] pathologic of these paralysis.- [illegible] is the direct result of the [illegible] poison upon the nerves.- Others hold that the paralysis does not results from this affection but is a idiomuscular affection.- In his researches Prof. Uhl has shown that the paralysis is due to a diphtheritic infiltration into the nerve-sheats. [illegible] produces a condensation of the [illegible] suffer compression and paralysis [illegible] the pressure upon the nerve is relieved and [illegible] cerebral origin; the former [illegible]

[illegible]ent although many claim [illegible]

the fact that in the case [illegible]

[illegible] are [illegible]

opposite to that Barthez [illegible]

[illegible]geal paralysis in cases [illegible]

the throat. – A remarkable case is [illegible]

[illegible]heimer of Munich in his excellent treatise [illegible]

He relates thus: [illegible] the great [illegible]

[illegible]ist wounded his finger during an operation and

contracted diphtheria in the wounded part; cicatrization

had progressed [illegible] considerable [illegible] when

[illegible] died without having had any [illegible] at all; the parts first involved were the muscles

of the larynx and pharynx, the upper and lower

extremities and the muscles of respiration.

Whether a paralysis is of diphtheritic origin or not [illegible]

[illegible] – [illegible] we may [illegible]

points connected with this subject, and the are [illegible]
ded to admit of consideration in this thesis [illegible]
I will pass on and review the various modes of

Treatment

[illegible] as we consider this disease [illegible]
or as a local affection produced by vegetable parasites,
or as a toxaemia having local manifestations we must
treat it purely local or combined with constitutional
remedies.— In the local treatment we [illegible]
be to lessen the inflammation and the difficulties of
swallowing and relieve pain; the [illegible] is [illegible]
destroyed [illegible] to remove the debris and [illegible]
[illegible] and finally to disinfect and prevent [illegible]
of the [illegible] [illegible].— [illegible] is also [illegible]
[illegible] [illegible] of the [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] grateful remedy.—

with the patient complains
[illegible] able to swallow liquids
previously.— Having relieved this disor[illegible]
it remains for us to destroy the products, to disinfect
them and prevent their absorption.— For this purpose
there are so many remedies recomended that it would
be [illegible] or improper to mention all them.
[illegible] myself to those used more recently
and with better success than formerly.— In former
times and even at present yet caustics have been
used; when we remember that these remedies [illegible]
[illegible] the [illegible] — [illegible]
[illegible] [illegible] [illegible]
[illegible] ;— [illegible] of this is that the symptoms are
[illegible] and [illegible] absorption as

[illegible]ilitated. In my opinion our aim should [illegible]
the exsudation; and at the head of remedies [illegible]
purpose is lime-water.— It was first [illegible]
[illegible]nmeister.— It may be used diluted as [illegible]
[illegible]
it is efficient espicia[illegible]
[illegible]ctions; when a more decided effect is desired Küchen-
meister adds 8–10 drops liqu. sodae caustic. [illegible]
[illegible] water; but for direct [illegible]
he uses only m5 : ℥I. — An other efficient solu[illegible] accor[illegible]
[illegible] to French authors is caustic soda in solution [illegible]
from one part to 4 parts of glycerine
[illegible] now pass to the means used, which should [illegible]
[illegible] antiseptic in their action.— Above all clean[illegible]ine
[illegible] the diseased parts by means of syringing with [illegible]
[illegible] After this we can come to a conclusion
[illegible] with to [illegible].—

[illegible] : [illegible] acid

[illegible] : [illegible]

[illegible] the believers in the parasitic theory

[illegible]

[illegible]

it antiseptic, and use it in combination with [illegible];

his formula is: acid. carbol., alcohol. recit. [illegible] Dr. I, [illegible]

des. Dr. V, with this he touches the affected parts.—

I have seen myself in a number of cases used a solution

[illegible] mic. β, aqu. d. mic. II [illegible]

[illegible] with the greatest satisfaction.

[illegible] sources

[illegible] indicated.— Emetics sometimes [illegible]

[illegible] disease are frequently administered too early and do great harm; they are only to be employed [illegible] there are evidences of loosening or detachment of [illegible] membrane in the larynx and trachea, [illegible] with the respiration.— Is a tracheotomia in [illegible] indicated? Although there [illegible] this procedure has resulted fatally, [illegible] we can expect much good from it, for it is usually the toxemia which destroys life rather than the local trouble in the blood and trachea.

The remedies which [illegible] [illegible] to [illegible] [illegible] effect of the disease [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] of life.

The first mentioned effect is obtained partly by the local treatment and therefore it only remains for us to limit the local manipulations by means of [illegible] acting directly upon the blood thus altering the [illegible] course of the disease... From the foregoing we perceive an increased plasticity of the blood was a trouble which was to be overcome by suitable means.

After calomel had been tried and the desired effect had produced, alkalies came into use to overcome or neutralize the acid condition of the blood, but these have proved futile as general experience shows, or it requires a greater lapse of time to overcome this abnormal condition of the blood than the patient can spare... Strong or alkalies are contraindicated in fevers in general as [illegible] may be made [illegible] use to explain this with a view of [illegible] the disease. — [illegible]

employed and with some success are: chlorate of potash, nitrate and carbonate of soda. — Very much used as a specific antidote is the chlorine water. — Even if we cannot accomplish much in the former direction we must try and try to explain the failing pro[illegible] of life, but the treatment must not be instituted too early but always it should be in the right time. The indications for supportive treatment are: feebleness of the heart's action, a small frequent pulse, rapidly sinking of the patient to support himself in the most feeble manner general exposure. The remedies to employ are Quinine, Iron, Stimulants c.c.s. — The Quinine should be given only in tonic doses, about [illegible] grs. per day; in larger doses it is not to diminish the appetite. When anemia [illegible] iron must be given. We find [illegible] light [illegible] of a fluid character, in the [illegible] [illegible] rice water [illegible] [illegible] very much

Much more might be said as to the pathology and treatment of this terrible affection, but it would be impossible in a limited thesis to review everything connected with it. In as much as the real pathology of the disease is still somewhat obscure a wide field of observation is open and in a short time bright minds will by observation enable us to save many victims to this affection.

Samuel Hahn

An

Inaugural Dissertation

Upon

Typhoid Fever

Submitted to the Examination

of the

Dean, Regents and Faculty

of Physic

of the

University of Maryland

For the Degree of Doctor

of Medicine

By George W. Tuttle

of

Maryland

1875

Epicranial Abscess.

[illegible]

[illegible]

Cerebralis [illegible]

to the frontal [illegible]

[illegible]

with necrotic lesions in [illegible]

and [illegible] bone. It is ushered in by [illegible]

headache, vertigo, [illegible]

[illegible]

[illegible]

[illegible] distinguish[illegible]

[illegible] is invisible [illegible]

[illegible] right iliac fo[illegible]

[illegible]

[illegible] absent. In [illegible]

[illegible] are not peculiar to [illegible]

[illegible] -alis superior; marginalis is also absent

[illegible] absent.

[illegible]

[illegible] occurring late in the [illegible] from the bowels most unbearable.

[illegible]

Complications — The most frequent complication is mental [illegible] some and considered nothing more than passive [illegible]

-cates the presence

the most serio

complications, though

-cover in whom it occurs.

mucous discharge

[illegible] without perforation.

Sequelæ. [illegible] a very [illegible] common. The mental [illegible] sometimes enfeebled for weeks or months. Amnesia is an occasional sequela. Deafness, for [illegible] in one ear, [illegible] may [illegible] the brain [illegible] after convalescence [illegible] seemed to be [illegible]

[illegible]

[illegible] acid, [illegible]

-ersions which are [illegible]

-ation [illegible],

[illegible] is [illegible] of

agminated, together with the

solitary glands [illegible]

-tation [illegible] in the [illegible]

[illegible] the [illegible]

-ter in a series of [illegible]

-curring in the patches of [illegible]

and the solitary glands, is [illegible]

-largement from a morbid [illegible]

-tion within the glandular

sacs. The enlargement [illegible]

-siderable, cicatrices are devel-
two or three times the
of the adjacent mucous sur-
-face. I think the vitaremnol
is due to h
of the cellular
glands, though
-by infiltration
extent of inflammatory
-ds between the cells.
-cous membrane over the
glands underwent

their elimination into
intestines, producing

ulcerated and hardened as in tuber-
-culous ulcers in the same situa-
-tion. The process cicatrization will
-[illegible] in the third week of
the disease and is going
on during convalescence.
Perforation of the intestine is
liable to occur in one or more
of the ulcers. This may be due
to coughing, or sneezing. It
is due to an extension of the
the ulceration to the muscular
and serous tunics. These
series of changes occur in the
ileum and solitary glands.

The above lesions are peculiar to typhoid fever, inasmuch as they are always present, and they occur in no other disease. They are characteristic of this disease.

Pathology. Typhoid fever is believed considered by most authors to be a general or systemic disorder, with characteristic ulceration in the intestines. So far as we know the disease in the intestines of fever before ulceration is specific.

question — This has not been ob-
-vious. Dr. George G. Wood is de-
the opinion that an inher-
-ent predisposition to the
disease exists in young ner-
-vous, excitable, to the tuber-
-culous, scrofulous, and [illegible]
diathesis. [illegible]
-ble.

Causation — Typhoid fever is
not restricted within any
geographical limits; it is en-
-demic in every [illegible]
-ble. [illegible]
[illegible] to [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

mometer varies [illegible]

[illegible] from 102° to 105°; [illegible]

[illegible]

105°.

Treatment of [illegible]

and Complications.

[illegible] [illegible]

[illegible] over it, no cutting [illegible]

[illegible] incision, [illegible]

[illegible] in [illegible]

[illegible]

[illegible]

[illegible] break [illegible]

[illegible] it [illegible] able to [illegible]

[illegible]

[illegible]

[illegible] Mrs. Husband [illegible]

[illegible]

[illegible] give [illegible]

[illegible] with blue [illegible]

[illegible]

[illegible]

Heffenger A Cowton 1875

Functions of the Liver in Health.

The liver from the earliest ages has been considered the most complicated as regards its functions of all the visceral organs.

It being by far the largest gland in the body naturally attracted the attention of the earliest investigators in medical science.

The crude opinions of these early investigators have been reproduced in a scientific form by modern experimentalists.

The old writers considered the functions of the liver of so much importance that they conceived it to be the central organ of vegetative life. Galen considered the liver the centre of animal heat the seat of sanguification and the starting point of the venous circulation.

These views of Galen were accepted with slight modification for more

than sixteen centuries. But in the beginning of the seventeenth century experimental physiology shed a new light upon the functions of the liver. The lacteals and thoracic duct were discovered to convey the chyle to the blood. this of course took a great function away in part, if not wholly from the portal vein and liver. The liver then lost in the sight of physiologists the great function of sanguification, and was then thought only to secrete bile, notwithstanding its important anatomical connections both in the foetus and adult.

It has only been within the last quarter of a century, that the liver has occupied its old place in the animal economy. Modern experimental researches into this branch of physiology, places it beyond doubt, that the secretion and excretion of bile is not one of the chief, but on the contrary, is the least important of the functions of the liver. The functions now most clearly understood, may be classified under

three heads.

I The function of Sanguification. which may be subdivided into that of the production of leucocytes. and the formation of Sugar. or Glycogenesis. The former will be the first considered.

(1) The liver is now practically demonstrated to exercise an important function in Sanguification. That it is one of the chief sources of the cytoid corpuscles is shown by the fact that Hirt of Zittau. examined specimens of blood from both the portal and hepatic veins. and found that in the portal venous blood. the proportion was as 1 to 0·24. while in the hepatic it was as 1 to 186. This of course is conclusive evidence. The red corpuscles also from the hepatic vein. are said to have a much sharper outline. and has tendency to aggregate into rolls. and also has soluble in water than those from the portal vein.

The observations of Weber and Kölliker. reveal the remarkable fact that the generation of blood corpuscles in the liver of the embryo.

is effected at an enormous rate.
At a very early stage of foetal life the blood cells multiply throughout the entire mass of blood. This continues until the maturation of the liver, when the active genesis of colorless blood cells is set up in this organ. These cytoid corpuscles subsequently become red corpuscles by enlargement and the development of red coloring matter in their interior. The blood in the hepatic vein is found to have become denser, and contains a larger proportion of solid matter, notwithstanding the loss of fibrin. This function of the liver as a diverticular gland, although greatest during the later stages of foetal existence, still continues throughout the life of the mammalia.

(2) Glycogenesis. This function was discovered by M. Claude Bernard in 1848. He demonstrated by an ingeniously conceived series of experiments that the liver is constantly producing sugar, also that this sugar is of the same variety as that found in the urine of persons affected with diabetes mellitus.

These observations of Bernard were repeated in several forms by experimental physiologists in different parts of the world. Now that this sugar producing function was satisfactorily demonstrated, the next point to be considered was how the liver produced it. This was shown by Bernard in 1857. He discovered a sugar producing material, Glycogen ($C_6H_{10}O_5$)[illegible] a substance resembling dextrine ($C_6H_{10}O_5$) in its chemical composition and reactions, and like it, capable of being transformed into sugar by the action of albuminoid ferments. This material always exists in the liver in greater abundance however during digestion, than at any other time, the largest quantity being found four or five hours after a meal. How or by what materials it is formed is not positively known. Certain it is though, that a diet of starch and sugar in large proportion, greatly increases the amount produced. There was considerable discussion as to whether sugar was really formed in the

liver. or only absorbed by the portal system from the small intestines. This point was settled however by Bernard. whose experiments upon the portal system of animals. upon an amylaceous, saccharine, and animal diet. developed the following facts. (1) When the portal venous blood of animals fed upon a saccharine and amylaceous diet. was examined it was found that glucose existed in quantity varying according to the amount of starchy and saccharine matter in the diet. and the period of digestion selected. The greatest amount being present between four and five hours after a meal. If the blood was taken from an animal fed upon an exclusively animal diet. no sugar could be detected in it.

(2) He then examined the blood from the hepatic veins and found sugar present at all times. and under all influences. provided the liver be in a healthy condition. Of course the amount was greatest after a meal consisting in large p...

Sugar and starch - but if they be entirely excluded - a certain amount of sugar can be demonstrated in the hepatic vein - vena cava ascendens - right auricle of the heart - and even a small amount in the arterial system during digestion.

The question - whether sugar is a normal ingredient of the liver during life? May be considered as settled - notwithstanding the fact that numerous observations have been made upon this subject - which are in many portions diametrically opposed. It may be considered as an axiomatic truth - that sugar does not exist as an ingredient of the liver during life - That it is constantly formed in that organ I have just demonstrated - and will likewise show that it is as constantly removed.

In the first place sugar is freely soluble in blood - and in the second - a sufficient quantity of blood passes through the liver to dissolve a considerable amount of sugar. Now if this sugar is dissolved

away with the current of blood as fast as it is formed - there would be necessarily none left in the hepatic tissue - That such is the case is the general opinion of prominent physiologists of the present day - Further evidence of this is seen - from the fact that - if the liver be removed from an animal - thoroughly washed out - by injecting a stream of water through its vessels - until there is no trace of sugar present in the water as it emerges from the hepatic vein - and then set aside - It will be found to have become highly saccharine, as well as the fluid which exudes from it - in twenty four hours - Thus the conclusion is - (1) that there exists in the liver a substance, which is capable under certain influences of being converted into sugar. (2) That this establishes a glycogenic function - which consists in the constant formation of sugar out of this glycogenic matter - and that it is as rapidly carried off in the circulation as formed - by the hepatic vein - and that the [illegible]

takes place in the carnivora as well as the herbivora - and is quite independent of the kind of food taken - (B) That during life - the liver contains no sugar - but only glycogenic matter - from the fact that it is washed out by the large quantity of blood which passes through this organ - but after death the circulation is stopped - glycogenesis continuing - the sugar of course is not removed - and can be detected in the substance of the liver.

Physical properties of liver sugar. It closely resembles glucose or starch sugar - honey sugar - and sugar of milk - though not exactly identical with either of them - Its formula in the crystalline form is ($C_{12}H_{14}O_{14}$) - the anhydrous ($C_{12}H_{12}O_{12}$) - Its solution reduces the salts of copper in Trommer's test - and is colored brown on being boiled with caustic potassa - It ferments readily when yeast is added and the temperature rises at from 70° to 100° Fahr - It is distinguished also - as described by Bernard - by the facility with which it is decomposed in the liver -

Bernard showed that nearly twenty grains of liver sugar could be introduced into the circulation of a rabbit - without a trace being found in the urine. While cane sugar and beet-root sugar if injected into the circulation of a rabbit pass through the system without any sensible decomposition - and are discharged unchanged in the urine. Sugar of milk and grape sugar are decomposed in the blood if introduced in small quantities - but that cannot be injected in abundance without their appearing in the urine -

Thus it is seen that liver sugar is consumed more rapidly and completely in the organism than any other saccharine principle -

The mechanism of the production of glycogen in the liver is quite a complicated one - and involves an intricate series of preliminary steps. As previously stated - the substances from which this matter is principally formed are starch and sugar - The starch ($C_6H_{10}O_5$) [illegible]

food is believed to be converted into glucose ($C_6H_{12}O_6$) by the salivary and pancreatic secretions. While the cane sugar ($C_{12}H_{22}O_{11}$) undergoes transformation by the action of the intestinal secretion into grape sugar and another form of sugar called lævulose ($C_6H_{12}O_6$). The glucose and lævulose are absorbed by the intestinal veins and conveyed to the liver by the portal system where they undergo conversion into fat partly but principally into glycogen which is stored away in the hepatic cells to be supplied for the nutrition of the organism during the intervals of fasting. Other circumstances however such as the formation of glycogen in adequate quantities in the livers of animals fed upon an exclusive animal diet and the periodical increase after a meal of flesh demonstrate conclusively that it can be produced from albuminous matter also. The albumen of the food is converted by the gastric juice into peptone which is [illegible]

absorbed by the intestinal veins and conveyed to the liver. There to be changed into glycogen and certain nitrogenous products such as leucin ($C_6H_{13}NO_2$) and tyrosin ($C_9H_{11}NO_3$) - which are finally transformed into urea (CH_4N_2O). The glycogen thus formed does not remain long in the liver, it is [illegible] and is quickly reduced on fasting.

The fact that the bile contains neither glycogen nor sugar - is a certain evidence that it is not eliminated by the bile ducts. It is got rid of in the form of sugar into which it is reconverted through the agency of an albuminoid ferment in the liver - or in the blood or transformed in some other way - it enters the general circulation by the hepatic veins.

Glycogenesis takes place in the foetus. Bernard found that in the early months of foetal life [illegible] and [illegible] but no sugar is found [illegible]

[illegible] experiments upon foetal [illegible]

that sugar does not make its appearance in the liver until near the fourth or fifth month of intrauterine life. Anterior to this period the function is performed by epithelial cells filled with glycogenic matter, and distributed through the placenta according to Bernard. [illegible] foetal existence and reaches its maximum at the third or fourth month. At the time when glycogenic matter makes its appearance in the liver the glycogenic organs of the placenta become atrophied and completely disappear some time before birth.

The Nervous System has an important influence over the glycogenic function. Artificial diabetes being produced from certain nervous lesions. If the floor of the fourth ventricle of a rabbit be irritated between the roots of the pneumogastric nerves [illegible] will be found in [illegible]

to have become clear - acid - and will [illegible] [illegible] of the [illegible] results - Having previously been - herbivorous, and destitute of sugar -

This operation - when performed properly - the presence of sugar in the urine is only temporary - and the secretion will soon return to its normal condition. The mechanism in which this is caused is not clearly understood - The pneumogastrics are not the nerves by which the irritation is transmitted - for both may be divided and still the experiment succeeds - These nerves however have a very peculiar influence over the glycogenic function - when both are divided in the neck it will [illegible] itself in a few hours, or days - according to the [illegible] time the animal survives the operation - all traces of sugar will [illegible] to have left the [illegible] and the secretion [illegible] glycogenic function [illegible]

If, after section of the nerves in this situation, the galvanic current be applied to their distal ends, no diabetes is produced, but if the proximal ends be galvanized, the molecular disturbance is conveyed to the nerve centre, where it is reflected to the liver, and produces a hyperacretion of sugar. The inhalation of anaesthetics and irritating vapours likewise produce diabetes, though transitory. This is also produced by a similar reflex action in the nerve centre, as in the above instance.

All these reflex actions concerning the glycogenic function, in which the irritation is conveyed to the nerve centre by the pneumogastric or its branches, take place through the sympathetic system, and most probably through the hepatic branches, that are found in the liver, for diabetes cannot be produced after the branches going to the liver are found to be divided.

The object of the glycogenic function is to furnish continuously an easily oxidizable material - such as sugar - which on coming into contact with oxygen and the [illegible] matter is readily converted in the tissues into carbonic acid and water and thus maintains animal heat. Although there is some difference of opinion among physiologists - yet the strong evidence goes to show that a portion only of the glycogen formed in the liver is converted into sugar [illegible]. Therefore the maintenance of animal heat is by no means its entire use. Thus in its high standing seems that it assists in cell growth - for the animal like the vegetable kingdom requires the presence of sugar for the perfect development of cells. Glycogen can be found wherever cell formation and proliferation is actively going on. Bernard and Rouget have found it in large quantities in the cells of the placenta and cornion - and Rouget in a number of the foetal tissues - such as castor oil - muscle - and the epithelial cells of the skin - and it has likewise been found in the inflamatory products

of pneumonitis - and in freak growths where-ever cell generation is active -

Hoppe Seyler also demonstrated that it is an ingredient of the white blood corpuscles so long as they are active - but when they have once lost their power of motion - they no longer contain it - and sugar is found to have taken its place - Dr R. McDowell has stated - that there is some probability that a portion of the glycogen of the liver combines with nitrogen - furnished by the fibrin of the blood - which is disintegrated in its passage through the liver - and that the result is the formation of a new proteine substance - which enters the circulation -

Dr Pavy unreservedly states that glycogen is capable of transformation into fat - He considers upon a priori grounds - that starch and sugar introduced with the food - lead to the production of adipose tissue in the animal economy. He in experiments upon animals. Fed upon these principles - demonstrates the presence of an abundance of glycogen in the liver -

Bernard states that in animals fed to a large extent on saccharine and amylaceous principles the hepatic venous blood contains an emulsive matter which has the appearance of fat combined with some proteine substance. Rouget positively asserts that this substance is nothing more than amyloid or glycogenic matter. The manner in which fat is ultimately formed from glycogen is not definitely known.

The production of glycogen may be considered the first step in the assimilation of the starchy and saccharine elements of our food. These articles are known to proceed on to fat. Glycogen consequently occupies a position intermediate between them. The assimilative process may go on to the formation of fat in the liver, or it may stop short at the formation of another principle which escapes from the liver and is elsewhere transformed into adipose matter.

It is more than probable that both

glycogen and sugar serve some purpose in muscular action. Experiments show that the amount of sugar in blood becomes greatly diminished in passing through the vessels of muscles under contraction. Bernard accounts for this decomposition of sugar in muscle by lactic fermentation.

The facts and probabilities set forth in this dissertation upon the function of sanguification of the liver, undoubtedly restores it to its ancient post of first among glands.

II. The [illegible] function with which we have to deal, was not even suspected by the ancient investigators in medical science, and is more important from a pathological point of view than the [illegible] considered.

Direct observations of modern [illegible] investigators show that the liver retards or sacrifices the blood as well as [illegible] it. It is also [illegible]

[illegible] - [illegible] of albuminous matter [illegible] from the food and tissues - and the formation of Uric and lactic acid - which are [illegible] eliminated by the kidneys -

There are three lines of argument which go to prove that - the liver possesses this disintegrating function.

(1) There is little doubt but that - the albumen and fibrin of the blood - is largely disintegrated in the liver - Physiologists have shown that while the portal venous blood contains large proportions of fibrin - blood from the hepatic vein contains a comparatively small amount.

Brown-Sequard - estimates that at least 26 70 grammes - or about 86 2 gr of fibrin are lost while blood daily - in its passage through the digestive apparatus and the liver -

We can readily understand - assuming this to be true - that if anything should interrupt or to say the least embarrass this fibrin destroying function - there would be a rapid increase of fibrin in the blood as is the case in fevers. [illegible] The need

in other diseased states. We have good grounds also for supposing that the red corpuscles are destroyed in the liver, and that the azotized coloring matters of the urine are in part the result of this process.

The researches of Gerhardt show that there is a positive destruction of hæmoglobin as the blood passes through the liver. It is an established fact that the red blood corpuscles are immediately [illegible] if their solution is conducted with a solution of bile acids of a definite strength.

The investigations of [illegible] are rendered it more than probable that the various shades of yellow, brown, and pink presented by the sediments of the urine are due to various stages of oxidation of the bile-pigments.

(2) We have good experimental evidence that the liver is a, probably, secondary agent in the formation of the nitrogenous matters eliminated by the kidneys.

The grounds for this opinion are threefold.

(1) The well known fact that the pathologic

You have functional derangement of the liver - there is an imperfect formation of urea - which is illustrated by the deposit of lithic acid or lithates - and of a dark coloring matter resembling lithic acid - in the urine.

(2) When the hepatic tissue has been compromised to a considerable extent by disease - the amount of urea eliminated by the kidneys is greatly reduced - or may fail altogether to appear in the urinary discharge.

This is illustrated in cancerous diseases of the liver - the amount of reduction of urea - depending of course upon the extent to which the organ is involved.

When there is no suppurative action going on in the liver - but on the contrary it is actively congested - with - of course increased action of the secreting cells - the amount both of urea and lithic acid is increased -

(3) We have good reason for supposing that where cerebral disturbance is manifested - in cases of chronic relaxation or destruction of the hepatic tissue - they are

[illegible] upon saturation of the system with bile but both want of elimination of urea. It is well-ascertained that atrophy and destruction of the hepatic tissue is closely allied with an important diminution in the formation of urea.

(3) We have of prominent evidence that urea exists in large quantities in the liver and is formed there: Cyon ascertained on analyzing blood from the portal and hepatic veins of dogs - that the blood from the latter vein always contained much more urea than that from the former.

Prof. Meissner found the blood from the portal vein contained only .08 grammes of urea in 100 cubic centimetres but after passing through the liver and it was ascertained .14 gr. and after passing through the liver [illegible] 0.146 gr.

He also made experiments which [illegible] was not due to a [illegible] of the liver but that there was no actual formation of urea.

It is worthy of notice that the formation of urea in the liver is invariably increased after the ingestion of food. Lithic acid also has been demonstrated in the liver of man and mammalia - always however in small quantity. In birds - lithic acid takes the place of urea as the important eliminator of nitrogen - it also takes the place of urea in the liver - as it is thought to do in the human liver under peculiar pathological conditions.

The result of all these investigations indicate the liver as being to a great degree interested in the destruction [illegible] of albuminoid matter - the products [illegible] eliminated by the kidneys. Other glandular organs [illegible] the blood of [illegible] - tubule - tubule process. These organs [illegible] are thus connected with the formation [illegible] in diminishing a [illegible] heat. The average temperature of the body being [illegible] from 98° to 100° F. the temperature of the

their reaches 104° Fahr. Bernard states that it sometimes rises 106° Fahr. He also demonstrated that in dogs the temperature of the blood in the hepatic vein is several degrees higher than that in the portal vein. It is evident therefore from the fact that heat is thus liberated during organization and set free during disintegration, and the high temperature manifest in the liver, that the disintegrating process, recurring in the organ, exceeds the formative.

In conclusion of this function, I think it is safe to say that it is not merely beautiful in theory, but practically essential, that the functions of the organism, and that the observations of various investigators, confirm the view, and lay down as a law, conclusive upon that, that the liver is the starting a present element of animal heat."

III. The liver functions of which is the secretion of bile.

This fluid is obtained with greater facility than any other of the secretions which are poured into the intestinal canal - but notwithstanding this - its study has proved a very difficult one - from the peculiar nature of the living infusoria and the readiness with which they become changed by chemical manipulation - consequently it has only been of late that we have arrived at a correct knowledge of its constitution. Its uses are not yet sufficiently known - a great advance however has been made of late through the utilising of modern physiologists -

Physical properties of the bile -

Human bile - as generally obtained after death - is usually a dark brown fluid of a tenacious consistence - due to the presence of mucus - derived from the gall-bladder and bile ducts - But it presents a very different appearance

when taken fresh from the liver.

It is then found to be a thin transparent liquid of a golden yellow color, like that of the yolk of an egg, of a very bitter taste, of alkaline reaction, and having a specific gravity of about 1018. It has an unctuous feel, and is freely miscible with oil or fat. It contains from 9 to 12 per cent of solid matters, (the proportion being greatest just after a meal) consisting for the most part of substances peculiar to bile. Excluding mucus, its chief constituents are found to be (1) Bile-pigment, (2) Biliary acids, combined with soda, (3) Cholesterin and fats, (4) mineral matters, such as the phosphates of soda, potash, lime, magnesia, and iron, chloride of sodium, and traces of copper. The following is an analysis of bile made by Frerichs, from a specimen of bile obtained from a man aged twenty-two, killed by an injury.

Water	859.2
Solid residue	140.8
Glycocholate of soda, Taurocholate of soda	91.4
Fat	9.2
Cholesterine	2.6
Bile pigment and mucus (of which mucus about 1.4)	29.8
Salts	7.7

The inorganic constituents of the bile possess no peculiarities which demand special consideration. Mucosin is the only coagulable substance which it contains. All of its principles are simply solids in solution. The amount of solid matter, as previously seen, is very large, and the proportion of water relatively small, but in comparing its proportion of water with that of the other fluids in the body, as the blood plasma, lymph and chyle, milk &c, it should be remembered that all of these contain water entering into the composition of their coagulable principles, so that their proportion of water, as it is commonly given, is really not greater than in the bile.

Among the inorganic salts of the bile, we find chloride of sodium in large quantity, and a large proportion of phosphates. There is also found a small amount of salts of Iron, of magnesia, and according to Dr Flint a minute proportion of silicic acid?

The fatty and saponaceous matters found in the bile exist in very small quantities. Margarine and olein are found held in solution partially by the small quantity of soaps but principally by the taurocholate of soda. Occasionally these principles exist in sufficient quantity to be seen in globules. The saponaceous ingredients as previously mentioned are found in very small proportions. Lecithin a phosphorized fat is mentioned by Robin. Its constitution is not positively known. It has been considered though to be a neutral fatty substance extracted from the bile capable of decomposition into phosphoric acid and glycerine. Choline ($C_{10}H_{14}NO_2$) is more, it is a glycerin alkaloid found in the bile in very small quantities.

Pigments. The yellow pigment is now termed bilirubin ($C_{16}H_{18}N_2O_3$). When allowed to stand it becomes greenish from oxidation and undergoes conversion into biliverdin ($C_{16}H_{20}N_2O_4$). This accounts for the rare green urine

by the bile in the gall bladder after
death and in the fæces. Bilivendin is
the principle coloring matter of the bile of
the herbivora. The manner in which
bilirubin was formed was long a mys-
tery. but it is now known to be formed
from haemoglobin by the hepatic cells
in the passage of the blood through
the liver. Dr Saunders summed
this up the source of the bile pigments
as early as the end of the last century.
by the following line of argument.
"green and bitter bile being in common to
all animals with red blood and found
only in such, makes it probable that
there is some relative connexion between
this fluid and the coloring matter of
the blood. by the red particles contrib-
uting more especially to its formation."
This view was revived not long since by
Virchow. and is supported by the appear-
ance identity of bile pigments with the pigment
haematoidin found in old extravasations of
of blood. and also by the fact that a bi-

seems to be bile pigments may be obtained from blood pigment by the action of chemical reagents. Like wise the presence of the fact by Zenker and Frerichs of the existence of crystals of haematoidin in inspissated bile and in the bile of jaundiced urine. Gréhant states that there is an actual destruction of haemoglobin in the passage of the blood through the liver. Numerous other investigators arrived at the same conclusion from various lines of argument. We have on the other hand reasons for believing that bile pigment is in its turned changed into urinary pigment. If bilirubin be chemically acted upon specimens of characteristic similar to those of urinary pigment can be obtained from it. The idea therefore exists that in the organism bile pigments are reduced by hydrogen or other reducing agents existing in the intestine. These points taken with the acknowledged fact that functional or structural disease of

[illegible]

show conclusively that the liver is the medium of conversion of blood pigment into bile pigment - and of bile pigment into urinary pigment.

The Biliary Acids.

The acids found in the human bile are two. Glycocholic acid ($C_{26}H_{43}NO_6$) - and Taurocholic acid ($C_{26}H_{43}NO_7S$) - Both of these acids are [illegible] the sulphur of the bile - and is the cause of the bitter taste it possesses. These acids exist in the bile in combination with soda - and are what are called conjugate acids - meaning they are composed of cholic acid ($C_{24}H_{40}O_5$) which knows to contain neither nitrogen nor sulphur - combined with taurine ($C_2H_7NO_3S$) which contains both nitrogen and sulphur - and glycocine ($C_2H_5NO_2$) which contains nitrogen but no sulphur. The biliary salts require little comment after the above considerations of the bile acids. [illegible] the precipitate

from a strong alcoholic extract of bile - by the addition of ether - the greater part of the precipitate - consists of [illegible] - which is the taurocholate of soda ($NaO\ C_{52}H_{45}NO_{14}S_2$) The remaining precipitate is the glycocholate of soda - ($NaO\ C_{52}H_{42}NO_{11}$) - The glycocholate of soda appears under the microscope - in the form of crystalline groups - "commonly presenting the appearance of double bundles of slender, radiating - slightly curved or wavy needle shaped crystals" (Dalton) Both of these salts are soluble in water - and give a purple color with sugar and sulphuric acid -

The principle chemical points of difference between these salts are - that the glycocholate is precipitated by the acetate of lead as well as the subacetate - the acetate having no effect on the taurocholate of soda - and that the glycocholic acid contains no sulphur -

These salts undoubtedly originate de novo in the liver - and are the chief elements of secretion - They have never been discovered in the blood in health - and although [illegible] [illegible] [illegible]

constituents of the urine - they have never been demonstrated in the excreta. In experiments made upon animals in removing the liver - no accumulation of the biliary salts could be determined. When discharged into the intestine - they undergo certain changes which render them no longer recognizable by the usual tests. We have positive experimental evidence - that changed or not - they are unquestionably absorbed with the nigesta.

Cholesterin. ($C_{26}H_{44}O$) is a crystallizable substance - closely resembling the fats. It contains no nitrogen. is readily inflammable - soluble in alcohol and ether - but insoluble in water. It differs from the fats in not being saponifiable by the action of alkalies. Most authors now recognize cholesterin as a normal constituent of various tissues and fluids of the body - stating that it is found in the bile - blood - liver - nervous tissue - crystalline lens - meconium - and faecal matter. It undoubtedly exists in all these situations - except the faeces. Dr Austin Flint Jr. has given evidence in this [illegible]

conditions - cholesterine is [illegible] in fæcal matter - but that during its passage through the intestinal canal it becomes transformed into a new substance - stercorin - which latter can be demonstrated in the intestinal contents. In the fluid part [illegible] cholesterin exists in solution - by what means is not positively known. In the bile it is thought that the biliary acids hold it in solution. And the small quantity of fatty acids contained in the blood - hold it in solution in that fluid - (Flint) - as cholesterin is insoluble in the animal fluids - it is probable that it exists in the blood - bile - and ne[illegible] [illegible] under some form of combination - as a lactate - oleate - or margarate - and that it is deposited in crystals only - when liberated from this combination - by the action of other substances - (Malloré) - according also to Flint - it exists in the crystalline lens and nervous matter - united molecule à molecule with other elements - which form these tissues - In pathological fluids and formations - it is found in the crystalline form -

[illegible]

of very thin, colorless - transparent rhom-
-boidal plates - portions of which are often
cut out by lines of cleavage parallel to the
axis of the original ellipsoid - Cholesterine is
not formed in the liver but has its origin
in the brain and nervous system generally.
from which it may be extracted by the
use of alcohol - The blood of course is the
medium by which it is conveyed to the liver
where it undergoes elimination - Dr Flint
has shown that this is actually the origin
and destination of cholesterine by careful and
extensive investigations - He ascertained
that there is about one ounce forty more
cholesterine in the blood of the jugular vein
returning from the brain - than in that of the
carotid artery - previous to its transmission
through that organ - On the other hand
he demonstrated that the blood of the hepat-
-ic artery - as well as that of the portal vein
loses cholesterine in passing through
the liver - receiving a small amount
in exchange for it: the blood of the
hepatic vein - [illegible]

to eliminate this cholesterin - an accumulation necessarily takes place in the blood - producing cholesteraemia - which is attended with cerebral and other symptoms of blood poisoning.

Bile thus constituted is finally constantly secreted by the liver. At the present time - there is much difference of opinion with regard to the part played by the liver - in the formation of bile. It is universally conceded that the biliary salts are formed by some unknown process in and by the hepatic cells of the liver - with regard to the bile-pigment. there also great diversity of opinion. Many eminent physiologists contend that it is performed in the blood - and is merely separated from that fluid by the liver. They account for those cases of jaundice - where there is no obstruction of the bile ducts - by saying that bile pigment accumulates in the blood from the liver [illegible] or from its function being suspended. Dr Murchison interposes the [illegible]

objections to this view - (1) "although bile pigment appears to be derived from the coloring matter of the blood - it has not been satisfactorily shown that bile pigment as such - exists ready formed in the blood of persons who have not jaundice. Lehmann - who has investigated with great care the changes which the blood undergoes in passing through the liver - has never been able to detect the coloring matter of bile in portal blood.

The blood of the hepatic artery has been examined with a little result.

It is obvious that if bile pigment exists in healthy blood at all - its quantity must be very minute - and when we consider that the quantity of bile secreted by the human liver daily is about two pints - and yet that jaundice is not a normal condition - it seems impossible that all the bile pigment secreted by the liver can be formed in the blood - and it is not probable that part is formed in the blood - and part in the liver

(2) [illegible]

[illegible] It was found [illegible]

It is quite conceivable [illegible]

[illegible] found [illegible]

[illegible] the channel

(3) [illegible]

[illegible] and wasting degeneration - cancer and cirrhosis - the secreting tissue of the liver is from the most part or entirely destroyed - bile is no longer secreted and there is no jaundice as a result - Several cases of this sort are referred to by Hooper. In one the gall bladder and bile duct - after death contained only a [illegible] mucus -

Frerichs records a case [illegible] where the contents of the [illegible] were pale - the gall bladder [illegible] and the biliary ducts contained no [illegible] mucus - notwithstanding which - the stool was of a chalky [illegible] and the urine - containing no bile [illegible]

If bile pigment is formed in the blood-vessels, it is difficult to account for what becomes of it in the urine."

It "If the constituents of bile are formed in the blood-vessels, it must follow that an excess of the bile-acids, in consequence of their accumulation in the blood after removal of the kidneys. Surely proves that neither the case of Mellinthin-Schmann and Voleschott, nor in fact any experiment has yet proved that liver disease has invariably failed to find a trace of the bile-acids, or of the colouring matter of bile, in the blood, the urine, or other secretions or tissues." Dr Murchison-Thus for these reasons that the hypothesis that the bile pigments is formed in the blood is untenable.

How could by what elements, let their in the bile formed? [illegible]

inside or outside [illegible]
biliary ducts. Matters [illegible]
the secretion [illegible]
for this, of course, [illegible]
in either event.

The manner in which [illegible]
is effected, is not so easy of explana-
tion. The bile, biliary ingredi-
ents are formed out of material
[illegible] from the blood.
The blood, by the liver
cells, and are taken up by the radica-
ls origin of the bile ducts. The discharge
is effected in a way similar to the
other secretions, with the exception
that a portion is temporarily
retained in a diverticulum, pro-
ver the main duct, the gall-bladder.
There is little doubt as to what
kind of blood the bile is formed from
[illegible] that the secretion of bile
[illegible] nerves and arteries
[illegible] are [illegible] formed in
[illegible] the portal vein and hepatic

[illegible] were [illegible]
-als at diffe[illegible]
[illegible]
[illegible] or [illegible]
[illegible]
[illegible] incremental [illegible]
[illegible]
[illegible]
[illegible]
[illegible] all made [illegible]
[illegible]
[illegible] been established [illegible]
follows [illegible]
[illegible] about [illegible]
[illegible] a day [illegible]
parts of fluid [illegible]
[illegible]
one fourteenth part of [illegible]
[illegible]
fluid bile in [illegible]
The statement of Bidder [illegible]
better effect that [illegible]
[illegible]
[illegible]

of increase [illegible] after [illegible]

[illegible] secreted [illegible] and [illegible]

[illegible]

[illegible] supplying the

fluid [illegible]

[illegible]

[illegible]

[illegible] The bile [illegible]

in the gall bladder during the intervals of di-gestion to a considerable [illegible]

[illegible] the fluid [illegible] the gall

bladder [illegible] the duct [illegible]

[illegible] partly

[illegible]

[illegible] question

[illegible] is what becomes of the bile

after it has passed into the intestine?

The [illegible]

[illegible]

[illegible] discharged with the faeces [illegible]

[illegible]

[illegible]

[illegible] discharged [illegible] the bowel [illegible]

[illegible] in faeces [illegible]

[illegible]

[illegible] days. On this calculation that the daily faeces of a man weigh 5-1/2 oz would make a [illegible] of 24 gr of dried bile in twenty four hours. He also states that [illegible] that the liver secretes 40.2 oz bile daily - containing only 5 per cent [illegible] matter - which is considerably below the average proportion - the amount of dried bile secreted in a day would be 46 gr or [illegible] quantity discharged from the bowel - According to Bischoff - a man discharges about 46 oz of the [illegible] three times a day - Voit estimates 176 oz [illegible]

12 oz [illegible]

[illegible] otherwise. The observations of Bidder and Schmidt show that [illegible] the [illegible] found in the faeces. [illegible]

[illegible] very little [illegible] as those in man.

[illegible] becomes of the [illegible]

bile? can be answered by stating that a large portion at least is absorbed by the biliary passages or the mucous membrane of the bowel - Considering the laws of osmose - It is natural to suppose that bile would not remain long in contact with the mucous membrane of the gall blad-der - bile ducts - and intestine without being in great measure absorbed - Dr Murchison considers the secre-tion and reabsorption of bile - as merely a part of that osmotic circulation - which is constantly taking place between the fluid contents of the bowel and the blood - In the course of this osmotic circu-lation - a large quantity of the bile seems to become transformed into products - which are ultimate-ly eliminated by the lungs and kidneys - This circu-lation at the same time assists in the assimilation of the nutritive matter derived from the food - In the first instance - its relations to the absorption of fat should be considered - Clinical observation shows that if the biliary secretion be obstructed for any considerable time there is a notable diminution of adipose tissue throughout the organism - and an abnormal amount of fat is in many instances of this condition found in the [illegible]

The experiments of Bidder and Schmidt show that after the bile duct has been ligated in the dog, the animal absorbs less fat than previously - and a diminished quantity of fatty matter is found in the chyle in the thoracic duct.

The bile upon entering the bowel - facilitates the absorption of albuminoid matter by neutralizing the acid that passes from the stomach into the duodenum - thus precipitating the peptones.

In what way this precipitation aids digestion is not positively known.

Bernard in some experiments came to the conclusion that gastric juice when mixed with pancreatic juice and bile has a more solvent action upon albuminoid matter than when alone.

It is now thought that the presence of bile in the intestine is essential to the production of glycogen by the liver.

Dr. Wickham Legg from experiments upon cats found that the formation of glycogen was invariably suspended after ligature of the bile ducts.

The diabetic puncture of the brain was performed on one of the animals six days after the bile ducts had been ligated. but the urine revealed no presence of sugar -

Finally it has been shown that the bile is partly excrementitious - a portion of it being ejected from the bowel - thus serving as an emunctory - in removing from the organism effete principles -

The biliary acid salts are decomposed - thus furnishing the free alkali for the precipitation of peptones and the saponification of the fatty matters ..... Still further decomposition is believed to take place in them - the taurin - glycerin - and greater part of the cholic acid - returning to the circulation - while the remaining cholic acid is discharged with the ejections -

The cholesterin - as has been previously stated - is also decomposed in

the intestine being transformed into another substance - stercorine. It seems also to be related in some way to excretin - another ingredient of the faeces - although this contains sulphur.

Marcet discovered that in very young children - cholesterin may take the place of excretin in the stools. The bile pigment bilirubin undergoes a change in its passage through the intestine - bilirubin being converted into biliverdin.

Lastly the bile in its passage through the bowel acts as a peristaltic persuader - and also by its antiseptic properties - prevents putrefactive processes from taking place in the intestinal contents - and consequently the excessive generation of gas.

From what has been said in this account of the functions

of the liver - it is seen that they are three fold - (I) The formation of glycogen - which assists in maintaining animal heat - and in vitrifying the the blood and tissues - and the generation of cytoid corpuscles. (II) The destructive metamorphosis of albuminoid principles in the blood and the consequent formation of urea - and other azotized substances - which are ultimately eliminated by the kidneys - these chemical changes likewise assisting in the development of animal heat - (III) The secretion of bile - the major portion of which is reabsorbed - thus assisting in the assimilation of adipose matter and peptones. and most likely in those chemical changes which take place in the portal system. A part is excrementitious - and while passing through the intestine - excites peristalsis and prevents putrefaction.

A. Conitow