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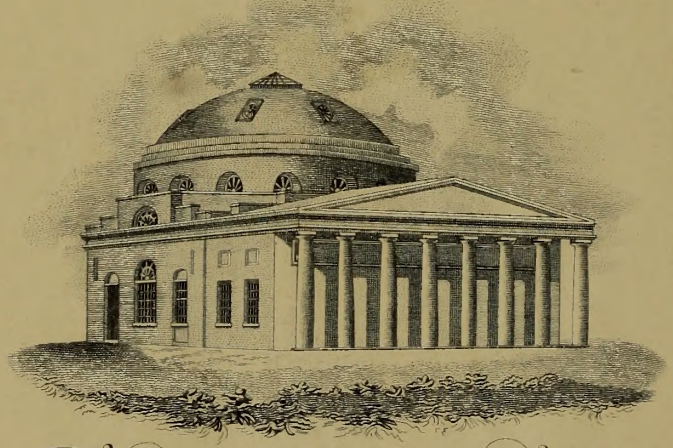

University of Maryland

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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.

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An
Inaugural Dissertation
on
Yellow Fever
addressed to the Provost
Trustees and Medical Faculty
of the University of Maryland
for the degree of Doctor of Medicine
by
Charles B. Watter of Maryland.

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The pathology of yellow fever was for a long time misunderstood, and was the theme of long and interminable controversy. Hippocrates thought at first that yellow fever was produced by a warm south wind. But not being able to assign a sufficient reason in support of this opinion, he abandons it and declares that it proceeded from the anger of the Gods. Which opinion was for a long time entertained by many of his successors. Sydenham says, there are two causes, the an occult quality of the air and the other an exhalation from the bowels of the earth, but gives no reason for adopting either theory. Kircher, a Jesuit Priest who wrote in the year fifteen hundred and fifty four declared that fever was produced by animalcules taken into the stomach through the nares and acted

upon the system - making the living principle the cause of all diseases.
Dr. Crawford subsequently adopted this opinion. Galen was the first who conceived of the propagation of pestilential diseases by contact: he is the first who mentions contagion, and we find the word used synonymous with infection till the year fifteen hundred and forty seven Galen says nothing of the nature of contagion nor has he adduced one solitary reason in support of his assertion. Pestilence in all ages, has been the scourge of the human race. As early as the end of the fifth century we find speculation rife about pestilential diseases.
The influence of the heavenly bodies was invoked in its production; and this opinion is still held by some modern pathologists.

Hodges of London who wrote on the plague in the year seventeen hundred and sixty five considered the atmosphere to be the remote cause but the Miasmocens he says is always generated in Asia.
He supposed the brain to be a great gland which manufactured the nervous fluid, and when the system was deprived of a certain portion of nervous principle predisposition was induced and disease was the consequence. Dr Crawford in an attempt to prove his theory animalcules, says, he saw by the aid of glasses animalcules in the malesement, which crept into the pores or small vessels, extended themselves and multiplied untill the patient was destroyed. how ever notwithstanding optics have been carried almost to perfection no man save the Doctor has been able to discover one of these beings.
Mr Webster of New England who has quoted

in his work on epidemics more facts than any other man living, has built his theory on the supposition, that Earthquakes, Eruptions, Volcanoes and Comets depend on Electricity and that this is the cause of pestilential diseases. If electricity were the cause of Yellow fever, it ought to appear in the Winter as well as in the summer. If the cause were eruptions from Volcanoes those people who live in the neighbourhood ought to be the first to feel its influence.

Naples has been the most healthy country in Europe. A plague existed there once before an eruption of Mt Vesuvius and once after an eruption.

In eighteen hundred and eleven there was a great earthquake in this Country and a Comet followed soon after. Mr Webster then predicted that the whole country would be visited by a pestilence.

Now according to the reports of physicians the country from the temperate regions of the North and East to the misty atmosphere about the Mississippi and its waters, was remarkably healthy. Facts which prove to my mind the fallacy of this theory.

As we can assign a theory much more satisfactory than any I have mentioned, the truth of which experience and observation have fully established, I shall of course lay them aside. The theory that I shall adopt and which I believe is the one generally received at the present day, is that the disease is produced by the effluvia generated by the decomposition of vegetable matter combined with heat and moisture. The question here arises, what is this aerial fluid which is generated by vegetable decomposition?

From the experiments of Professor Julia of Lyons it would appear that the

The air of the most pestiferous marshes differs in nothing from the purest air.
The pestilential influence of miasmata depends on the particles of putrid animal or vegetable matter dissolved and suspended in aqueous vapour.
None of the gases disengaged from bodies in a state of putrefaction, exhibit themselves in a sensible quantity.
The diseases caused by miasmata are not dependent on the predominance of any one of the gases in the air.
I am inclined to believe with the learned professor that the deleterious particles of miasmata are dissolved and suspended in aqueous vapour; but I cannot subscribe to that part of his theory, in which he speaks of the deleterious influence being dependent upon animal as well as vegetable matter.
We have sufficient authorities to prove

that animal matter is not at all necessary in the production of this disease.
Our celebrated countryman, Dr. Rush at one time believed that the disease was generated from animal matter. He says that by the putrefaction of animal matter a gas was evolved which combined with the atmosphere and formed a gaseous oxyde of Azote: he did not found this upon experiment, it was merely an assertion. He supposed that the gas being taken into the system, acted as a direct irritant upon the stomach and produced yellow fever. If this were the case it ought to produce inflammation in the stomach. Can any general fever be produced by an irritant upon the stomach?
Some pathologists were of the opinion that it was a gas formed by the combination of Hydrogen and Azote that produced the disease; as it is a well established fact

that these gases taken into the system
destroy irritability or induce debility, effects
generally found to be produced by Miasm.
But these like many other opinions on
the nature and composition of Miasmata
are not based on any analytical deductions.
Whatever may be our views concerning the
essential nature of miasmata, observa-
tion has made us acquainted with some
of its physical qualities, as well as with
its general effects upon the system, and
which is perhaps all that it is necessary
for us, in a practical point of view, to know.

This disease was considered, for a long time
to have a foreign origin, and to have been
imported into this country.
When the Yellow fever prevailed in Phil-
adelphia in seventeen hundred and ninety
four the celebrated Dr Rush was most
shamefully persecuted by the authorities,

for having proved that the Yellow fever existed in that city that it was generated in that place and had not a foreign origin. It was attempted on that occasion to fix its importation on a Ship.
Dr Rush in proving the local origin of the disease says "that it was produced by the exhalations from the gutters and the stagnant ponds of water in the neighbourhood of the city. Where there was most exhalation, there were most persons affected by the fever. Hence the poor people, who generally live in the neighbourhood of the ponds in the suburbs, were the greatest sufferers by it. Four persons had the fever in Spruce Street, between Fourth and Fifth streets, in which part of the City the smell from the gutters was extremely offensive every evening. In Water street, between Market and Walnut streets, many persons had the fever;

now the filth of that confined part of the city is well known to every citizen. On the twenty fifth of August the brig Commerce arrived in the river from St. Marks. After lying five days at the port, she came up to the city. A boy who had been shut out of his lodgings, went in a state of intoxication and slept on her deck, exposed to the night air, in consequence of which the fever was excited in him. This event gave occasion for a few days to a report that the disease was imported; and several physicians, who had neglected to attend to all the circumstances that had been stated, admitted the Yellow fever to be in the town. An investigation of this supposed origin of the disease soon discovered that it had no foundation." Dr. R. clearly shews that the disease had a local origin and was produced by the exhalation from the ponds and

marshes in the neighbourhood.
I have still a stronger evidence in favour of this doctrine a fact related by Dr. Potter in his lecture on this disease.
In eighteen hundred and twenty the Yellow fever appeared in Baltimore as early as the twenty fifth of June. Several cases had already occurred in another district. Dr. P. and another physician were consulted by the Mayor, whether it were best to give the alarm to the inhabitants immediately. They gave it as their opinion that certain nuisances should be removed; if after that the disease should extend itself, it would be time enough then to alarm the citizens. This was done. Men were employed to take up floors and fill up cellars. One of the men thus employed was attacked by the disease and died in twenty four hours. A carpenter and two apprentices employed in this work were seized

with the disease, but recovered. Such was the effect of removing the filth from this quarter of the city, that not another case occurred in the neighbourhood. What becomes here of the constitutional condition of the atmosphere about which so much has been said? If the disease was atmospherical why did it not continue? Because the filth, the proximate cause of the disease, was removed.

The theory of contagion was held for a long time by many of the most respectable physicians in this country. Dr Rush caught this doctrine till the year eighteen hundred and eight, when he together with the greater part of his followers gave up that theory. Thus physicians frequently adopt a theory, not founded upon true pathological principles, but, because it numbers among its advocates an Hyppocrates

tes, a Sydenham or a Rush. Hence this fondness for ancient and fashionable theories lead us frequently to false and even fatal pathological deductions. We should be Nullius addicti jurare in verba magistri. We should judge for ourselves.

Those who believe in the contagion of Yellow fever, say if it were produced by Marsh miasm alone, it could not appear on shipboard. There is undoubtedly a pestiferous miasm under favourable circumstances, generated in the holds of vessels while navigating in hot climes; which when suffered to escape at the wharves may give rise to the disease. There is, in fact always something in a vessel undergoing decomposition; even the timber itself.

The circumstances of the ship Ten Brothers at Boston, in 1819. related in the Medical Recorder, afford a striking example of the production of deleterious miasm in the

holds of Ships, capable of producing Yellow fever. This vessel having arrived at Boston on the first of August a number of persons went on board while the cargo was being discharged: and twelve individuals, living in various parts of the city, were seized with the disease nearly all of whom died. The disease was confined entirely to the Ship: and not a single person of those who visited the sick contracted the disease. This fact not only proves that the disease can be produced in a Ship, but likewise is a strong argument in favour of its non contagion.

Collections of timber in water courses, exposed to the action of the sun will produce the disease. Shavings from Ship yards, joiners shops are frequent causes of this disease, when exposed to heat and moisture. Heat must be considerable or continued for a long time. Some writers

assert that Yellow fever has never been produced on land unless the thermometer stood at 85°. Heat and Moisture are the Sine qua non in the production of Yellow fever.
The state of the mind, as well as the habits of the individual have great influence. The more ardent spirits a man drinks, the more rapid will be the disease; the more wine the more inflammatory.
All writers have remarked that there is great mortality among troops after their arrival in a tropical climate. Owing chiefly to their licentious habits, to their intemperance and exposure to the night air. "When troops arrive in a distant country, says Mackintosh, after a tedious voyage it is natural to expect that they will indulge themselves in many ways beyond due bounds. Cheap wine, lemonade and an abundant supply of delicious fruits, attract their attention, and do in-

calculable mischief. Some men leave England in the utmost state of despondency and it will in general be observed that they are the first victims. New comers are also apt to indulge in drinking too large a of cold fluids and sitting in a thorough draft when the body is overheated; in fact it requires considerable time before a European obtains knowledge to manage himself properly. Some are foolhardy and take no care of themselves whatever, and I feel convinced, that an amusement in which young strangers too frequently indulge, known in the West Indies by the name of "Dignity Balls" causes many deaths.

As respects the modus operandi of the Virus there has been great diversity of opinion. Some contending that it may affect its entrance through the coats of the blood vessels and get into the circulation.

Others that it is taken into the stomach and acts upon the nerves of that organ. Hence perhaps that the liver is so soon affected. I am inclined to adopt the latter opinion. For when the stomach is diseased the secretory apparatus is disordered - the fluids are not perfected. the blood is not well manufactured. Hence it may be changed in appearance and still not have the poison in it. I do not deny its influence on the circulation; but I believe that influence to be exerted through the instrumentality of the sentient system.—

Situation, occupation and habits of individuals all modify this disease and make a change in its symptoms.

During the prevalence of this disease, you are sometimes obliged to bleed and purge a patient before you can cure him of gonorrhoea.—

In hot climates, where the disease is endemic, strangers, residents of more temperate latitudes, are most generally obnoxious to this disease. Those who are acclimated are in a degree exempt from its attacks, and when it does occur in such individuals, it is always more mild and manageable.

If a person is labouring under any other affection during the prevalence of the cause, it will take upon itself the appearance of Yellow fever.

The cicatrization of wounds has been found to be more slow in its progress during the continuance of the Epidemic.

Symptoms. The disease is generally preceeded by some indisposition, such as headache and giddiness; loss of appetite; symptoms of indigestion; oppression at the præcordia, constipation of the bowels; a feeling of debility and

fainting; sometimes with diarrhea, but of all these oppression at the precordia, giddiness, headache and constipation of the bowels are the most frequent premonitory symptoms. The disease begins sometimes with great excitement and without a chill at another time the chill will be long and severe. Sometimes it happens that the patient dies in the chill. before reaction takes place; sometimes cases occur where the seizure is sudden and unexpected the patient is struck down senseless. From which circumstance it has been called the falling sickness) irritability of the stomach soon appears; black vomiting ensues and he is carried off in the course of thirty six hours. Persons are frequently heard to sigh during the prevalence of this disease. The most frequent form of the disease is that in which after the chill, which may be more or less severe there quickly suc

ceed violent reaction, heat of skin and determination of the head announced by the following well marked symptoms flushed face; conjunctiva injected, the eyes heavy with a sensation of burning, the expression of the countenance to an experienced person is a sure mark of the severity of the disease. The face is not always flushed, sometimes there is a watery eye, and flowing tears. The patient is sometimes harassed by a cough; he breathes with difficulty and seems to gasp for air. The head and frequently the whole body is thrown from side to side, and the patient sighs, whenever the liver is much affected - this is occasioned by the action of the blood in that viscus - There is sickness of the stomach accompanied with vomiting, sometimes nothing is thrown up but the ingesta of the stomach, occasional-

by there is yellow bile vomited; in this
case the pulse is always frequent, but
remarkably quick sometimes at a hundred
and thirty. In the more malignant grades
the ejection of bile does not always take
place; because when the liver is the prin-
cipal seat of the disease there is none
secreted. Shooting pains in the head,
back and thighs are frequently experienced
There is sometimes a burning pain in
the pit of the stomach; tenderness in
the right hypochondrium; great thirst
with continual retching of every thing
taken into the stomach. The pulse va-
ries considerably in this stage. In some
it is quick full and strong; in others
it is quick and not strong; and again
we meet with it not very quick but
very irregular. The tongue is furred
and soon becomes parched and of a
dark mahogany colour. There are some

of the symptoms of the first stage. The duration of this stage varies considerably. In some cases it lasts for three or four days; sometimes only twenty four hours.

In the second stage the skin appears yellow, and sometimes of a mahogany colour; the eyes begin to look dusky and yellow. If the yelloweness appears early it is a bad symptom; if on the second day the patient hardly ever recovers; if it appears on the fifth or seventh day we augur favourably. This yelloweness of the skin depends upon the obstruction of the liver; and the bile is carried from the gale bladder and diffused over the whole system. In this congested state of the liver the secretion of the Kidnies is suspended; and when the function of these organs is restored we can make a favourable prognosis. The pulse becomes low; the patient becomes

comatose; the brain is confused, and sometimes delirium supervenes; the breathing becomes much quicker and more anxious; the eyes glaze. In this state of the disease the patient seldom or ever speaks; he desponds and occasionally falls asleep, but almost instantly awakes in great terror. The tongue is always parched and covered with a black fur, and the skin becomes loose and clammy. One of the most marked symptoms in this advanced stage of the disease, a symptom by which it is universally distinguished, is the black vomit. The black matter ejected from the stomach, which constitutes black vomit, was once generally supposed to consist of bile. It differs materially from the black matter discharged in bilious and other fevers. It will not like the matter thrown from the stomach in bilious fever, communicate a yellow tinge to

water when agitated with it. It differs likewise in taste; that of bilious fever is always intensely bitter; whilst on the contrary that of Yellow fever is generally insipid, or somewhat acid.

Dr. Potter says "that the Blackvomit is the carbon of the blood, mixed with the gastric juice. There is no bile in it."

There is another stage in this disease which inevitably terminates fatally; I allude to what has been called the walking stage. Cases are sometimes though not very often, seen walking about, attending to their daily avocations, complaining of but slight indisposition, are suddenly seized with the Blackvomit, fall down and instantly expire. This is certainly the most violent form of the disease.

Treatment— There is no disease, whose remediate management has undergone more changes than the one under consideration. The supporters of the doctrine of debility, always avoided bleeding in this disease. They treated it as they would a mild case of Intermittent; by clearing out the alimentary canal, and then having recourse to bark and wine, without regard to the state of the stomach or local inflammation. And if the stomach was irritable they also prescribed opium to prevent the bark from being ejected.

I shall however adopt the energetic plan of treatment, which alone has been found successful in this disease. The first remedy to be employed is, if practicable, the removal of your patient from the infected atmosphere. If the disease was contracted in the city, send him into the country. For if your patient should recover, and still remain, where the disease is existing

he will be liable to a second attack, which in consequence of the debilitated state of his system, will almost certainly prove fatal. He should be kept in a cool room freely ventilated. If the weather is cold make the room agreeable. A good nurse is absolutely necessary. Directions should always be kept in writing, and notwithstanding all your precautions the patient will frequently die through neglect of the nurse, especially if she be a hireling. The patient should not be disturbed by visitors. He should be kept perfectly quiet. He should see our patient in the paroxysm; for they sometimes die in the cold stage, and if we bleed in this stage, we cut short the chill, produce reaction and cure the patient. If the patient is of a full and plethoric habit, we should, in the first stage bleed him largely and administer large doses

of calomel with a view to excite salivation.
If on the contrary the patient is weak and debilitated we should not carry our bleeding to so great an extent but depend chiefly upon the administration of mercury.
In the second stage should the pulse still indicate bleeding, it should be performed often and in small quantities through a small orifice: and ~~continue~~ we should still continue the administration of calomel till salivation was induced.
Cold drinks should be allowed not merely to quench thirst, but with a view to promote the action of the calomel. Ice Bitart. Potas. with iced water makes a very good drink. Warm drinks are wholly inadmissible. The sulph. of Soda and the sulph. of magnesia are administered to aid in producing evacuations.
If calomel be rejected by the stomach we must use friction with mercurial

ointment. Antimonials and emetics should never be employed, for the more they vomit the deeper the congestion becomes.
The necesity for blood letting, is not the same in all cases of yellow fever, nor in all seasons: but when the pulse is strong, you may bleed, until your patient begins to feel sick; and when the disease is epidemic it cannot be cured without blood letting.
All stimulating and tonic medicines are improper! The only tonic the patient should use during his convalescence is a moderate and nourishing diet.
If we see our patient in the incipient stage we can very frequently put a stop to its further progress, by one bleeding and a large dose of calomel. In cases where the febrile reaction is very strong, the skin hot and dry, nothing is more refreshing than sponging the body with

cold water. And if the head is much affected we may derive much benefit from cold applications to the shaven scalp. Leeches applied to the epigastrium, when the stomach is very irritable, especially after the inflammatory action has been somewhat reduced by efficient depletion.

Post mortem appearances. The appearances after death are various. In some large abscesses are formed in the brain. In others the appearances similar to those in Phrenitis and Hydrocephalus Internus: there is a large collection of water on the membranes But the organs most commonly inflamed, are. the liver, stomach, gall bladder and diaphragm. All the abdominal viscera are found sometimes adherent to the peritoneum; the gall-bladder perfectly empty and its membrane injected with blood.

1836

An

Inaugural Dissertation

On

Constipation.

Addressed to the Provost, Trustees,

and

Medical Faculty,

Of the

University of Maryland

for the degree of Doctor of Medicine.

by

William Cromwell.

of

Maryland March 1836.

In accordance with the laws of the Institution of Maryland, as well as of other Medical Schools, it devolves upon me, to submit to the Faculty of said Institution, a dissertation on some medical subject. I therefore respectfully offer to the consideration of said Faculty the following essay on Constipation. Although aware of the inability to do justice to the subject; but anticipating somewhat the opinion of the Faculty, that a student from his limited experience in clinical observations, could scarcely be expected to advance any thing novel on any subject whatever, but merely sum up the knowledge, that he may have gained by analizing the different Authors and drawing such deductions, as appear consistent with philosophy.

The subject of our essay appears to have received but little attention from most of Writers, although a disease of little importance, comparatively speaking, and not attended with much danger in its constitutional form,

it is nevertheless a source of great inconvenience, and if suffered to continue unchecked, may give rise to very disagreeable affections. Although it may be regarded as a general rule, that a daily evacuation from the bowels is absolutely necessary for the due presevation of health; yet it frequently occurs that some individuals have their bowels moved but once or twice in a week and suffer but little inconvenience. We have a well authenticated case of feces being retained in a child for ten weeks, without any evident predyudicial consequence. There are cases on record of feces being retained for months, years, and even seven years without serious mischief.

The influence of habit on the animal economy is strikingly exemplified in this affection, the gradual deccpsion of which, enables the system to accommodate itself to this anomalous action without proving detrimental to the constitution.

Constipation cannot be considered as a disease, but merely a symptom of some

pathological state of the system, the term is therefore used conventionally, and it is solely an evidence of interrupted function of the intestinal canal.

Persons leading a sedentary life, the studious, and all those whose occupation confines them within doors are especially liable to constipation, owing to inactivity of the portal circulation and torpor of the liver produced by an inactive life.

The circulation through the portal system becoming languid will consequently lessen the biliary secretion, which is regarded by some physiologists as a natural stimulus, to the intestinal canal, the peristaltic of the intestines being lessened the feces will therefore accumulate in the large intestine, distending it to an enormous degree.

The frequent repetition and long continuance of this distention wearing out at last the sensibility of the tube, and thus rendering it incapable of responding to its natural ~~lim~~ stimulus.

The mechanical pressure of accumulated feces in the intestines, retarding the circulation through the abdominal organs, and thereby occasioning a remora of blood in the haemorrhoidal vessels, giving rise to that very troublesome affection haemorrhois.

Fistula in ano, may be caused by the irritating effects of fecalent matter, in the rectum. The irritation may also affect the bladder, by contiguous sympathy; and produce considerable irritability of that organ. The mucous membrane of the rectum, may become thickened, by the long continued presence of an unusual quantity of feces, and in irritable habits give rise to a Tabid condition of this part of the canal.

The symptoms consequent on this disease, are loss of appetite, though this does not always happen; as in some cases the appetite is not at all affected, but continues unimpaired throughout the course of the disease. There is sometimes headache, and slight febrile irritation. Colic symptoms, occasionally occur, and usually a feeling of fulness and great uneasiness in the abdominal region.

The accumulation of feces and consequent torpor of the abdominal viscera is a source of considerable mental anxiety, usually a lowness of spirits, and disinclination to mental and corporeal exertion attend this disease. The long continuance of this affection is apt to impair the function of the stomach and induce indigestion.

Constipation is owing according to Good, to an excessive action of the intestinal absorbents; by which the fluid portion of the feces is too rapidly removed, and they are left dry, scybalous, and with difficulty transmitted through the capsule. This abnormal condition, may be caused by violent exercise, which heats the blood, and causes a superabundant secretion of the insensible transpiration; by too stimulating a diet, or the disease may be caused by the excrements becoming too inspissated from deficient secretion of the biliary exteriors, by which the feces are hardened and become impacted in the cellules of the large intestine.

This disease may follow too astringent a diet by which the secerning vessels of the intestines are constringed and the secretions diminished, or by causing some degree of rigidity of the muscular fibres of the intestines and thereby lessening their peristaltic action. A preternatural constriction of some part of the intestinal canal, may be a cause of Constipation by preventing the descent of the feces, unless their consistence be changed by appropriate measures. The disease may also be caused by a neglect of the calls of nature.

The treatment of this disease must of course depend, upon the cause and pathological State of the system, We are not to look to the Materia Medica as the principal source for the treatment of this affection; but our chief success depends upon a strict adherence, to a proper regimen.

When the disease is owing to an excessive action of the intestinal absorbents, it is to be relieved by proper attention to diet; the food should be light, and unirritating; all high seasoned food and stimulating drinks,

should be particularly avoided, as also all astringent articles of diet must be dispensed with. If there be too copious a flow of insensible transpiration, perfect quietude should be observed, nauseating medicines must be employed, such as Antim. Tart. or Ipecacuanha in small doses. The bowels should be kept in a soluble condition, at the same time by the use of aperient medicines.

If the disease depends upon constriction of any part of the intestinal canal, the bowels must be kept in a soluble state, solely by dietetic means. The aliments taken should be small in quantity, of a bland and unirritating quality, ripe fruits and farinaceous articles should constitute the principal portion of diet.

Should a stricture exist in the rectum, it may be dilated by the use of the gum elastic Stomach tube.

When the disease is owing to deficient secretion of the liquor enterieus, or to a torpid state of the intestinal canal, our aliments may be of a more stimulating nature, animal food and

condiments may be allowed, with the occasional use of wine or other stimulating drinks, in small quantities. Corn bread, when it agrees with the stomach, may be used with advantage. Also the bread made of unbolted flour, is particularly to adapted to the cases now under consideration, these articles by the mechanical irritation they produce, increase the peristaltic action of the intestines, and thus accelerate the passage of their contents. Charcoal has proved beneficial in the same manner but care should be taken in its use, lest it should accumulate and plug up the intestines. Prunes figs, tamarinds and other fruits, by virtue of their saccharine matter and the irritating effects of their proper particles, tend in an especial manner to keep the bowels in a healthy condition.

The principal indication in the treatment of this affection is, to increase the sensibility of the intestinal canal, as nearly all cathartics lose their effects by frequent repetition, and their constant use, tends to aggravate the disease they cannot be employed with advantage.

The Saline cathartics are the only ones, that are admissible in the treatment of inveterate cases of constipation, by their use in small doses, the sensibility of the mucous membrane of the intestines is gradually developed, and an important object is attained.

The following preparation, has proved beneficial in the hands of our esteemed Professor of Materia Medica, One ounce of Sulphas Magnesia, two drachms of Potassæ Bitartras, dissolved in one quart of boiling water, a wine glass full, to be taken three times per diem.

For the successful management of this affection, early rising, and moderate exercise are indispensably necessary, as the portal circulation is generally in a languid condition; any thing that gives a succussion to it will act beneficially in the treatment of this disease; and hence, walking or riding on horseback, prove serviceable, from the concussion given to the abdominal viscera. Kneading the abdomen, may also act as a Stimulus to the intestines and portal system.

The liver is most generally implicated in this disease, when such is the case, recourse must be had to mercury in small doses, four or five grains of blue mass, should be taken every night for a fortnight, with the interposition of a mild cathartic every second. The use of injections, would seem to afford an important means, and is certainly too much neglected, in the management of this affection.

After all that has been said, with regard to the treatment of constipation, a regular attempt at stool, appears to be one of our most effectual means for subduing this affection. An attempt to evacuate the bowels should be made at a certain hour every day; although such efforts may appear inadequate for a time; yet, perseverance in the practice, will ultimately, in many instances break in upon the morbid condition and overcome the habit.

But should the disease not yield to the preceding mode of treatment, recourse must be had to more energetic measures. ——

calomel, ol. terebinth., or ol. ricini, must be employed to unload the bowels, and it may be necessary, in some cases, to induce ptyalism to effect a cure.

We have thus given an outline, of the pathology and treatment of Constipation, not with the expectation of shedding any light on the subject, but merely with the hope, of fulfilling an obligation imposed upon us by the laws of the Institution.

In concluding this subject, we humbly submit this our first attempt at a Medical essay to the several inestimable Professors, composing the Medical Faculty of the University of Maryland, and in the meantime offer our best wishes for their future happiness.

1836

An
Inaugural Dissertation
on
Dysentery
Submitted to the
Examination
of the
Provost Trustees and
Medical Faculty of the
University of Maryland
for the degree of Doctor of Medicine
by

George B Aiken
Baltimore Md

Dysentery

This disease frequently prevails in the United States as an Endemic or Epidemic and sometimes prevails over whole neighbourhoods or large tracts of country, and is found in distant places, where no feasible communication with the infection could have existed; so clearly is this disease dependent on a peculiar state of the atmosphere, that a physician ought to blush, when he pronounces it contagious. That uncleanliness will increase the predisposition to this disease or that unwholesome articles of food and exposure to the hardships of a dirty camp, may excite a dysentery I have no doubt, but this argues nothing for specific contagion. Yellow fever and bilious remittent by this way of arguing, and even agues are contagious. An individual labouring under dysentery, if carried to a healthy atmosphere will no more communicate the disease than a patient would labouring under Yellow fever

May more Doctor Potter of Baltimore says that he has injected the discharges of a dysenteric patient into the intestines of a healthy individual without producing the disease. But, lest I confuse my readers with my attempts at reasoning on this disease or possibly bewilder myself I shall now endeavour to describe the disease and conclude with some remarks respecting the diet of the patient

Acute phogosis may attack the whole track of the mucous membrane of the Intestinal from the stomach to the rectum or only a portion of it; and the symptoms by which it is denoted are extremely various, according as its superior, middle or inferior parts, are principally or exclusively affected. When the determination is confined to the lower intestines, chiefly the colon and rectum, the disease is known by frequent mucous and bloody discharges, tormina tenesmus, and retention of the natural feces, constituting dysentery

The train of symptoms which indicate this pathological state, are; a sense of langour and lassitude, loss of appetite, flatulency nausea, bad taste in the mouth - depressed pulse, slight chills succeeded by transient heat in the skin - frequent pulse thirst dry skin, transient pains in the bowels costiveness, and occasionally diarrhoea. These symptoms are ordinarily the harbingers of the griping, and increased evacuations which afterwards occur - The stools are at first greasy and frothy, afterwards they are streaked with blood, and at last have frequently the appearance of pure blood, mixed with small filaments, analagous to bits of skin. When the patient goes to stool, he experiences a great weight or bearing down in the rectum as if the whole of the intestines were falling out, and sometimes a part of the intestines is actually protruded, which is a source of great annoyance, particularly in children.

The violence of the tenesmus a very correct criterion of the violence of the disease: the tormina most severe, just before the calls to stool; tenderness in the abdomen; the effluvium from the stools at first offensive but not fetid - towards the end they have a very penetrating cadaverous smell. In violent cases, colliquative diarrhoea occasionally comes on, a few days before death Such is the persecuting nature of this distressing malady, that its unfortunate victims, have scarcely a moments respite, from the close stools, whilst they are borne down with anguish and debility

The exciting causes of dysentery are extremely various - It may be occasioned by any thing that obstructs the cutaneous transpiration, as damp beds wet clothes or great draughts, whereby the perspiration is suddenly suppressed, and a determination

-made to the intestine. Deranged function of the liver and skin are invariably present (Johnson) The period most favorable for the production of dysentery is when a cold and moist atmosphere quickly follows intense heat. Among the sporadic causes of dysentery, may be mentioned the immoderate use of unripe fruit: indigestible and unwholesome food; and irritating articles of all kinds taken into or generated in the bowels It may be occasioned by strong Cathartics and whatever increases the natural irritability of the intestines. Most writers suppose scyballa as a frequent cause of this disease; but the correctness of this opinion has of late been, with much justice, controverted (J. Johnson) This disease may be distinguished from a diarrhoea or looseness, by the acute pain of the bowels, by the bearing down, and the

-blood which generally appears in the stools. It may be distinguished from the cholera morbus by its not being attended with such violent and frequent fits of vomiting &c. When this disease attacks the old, the delicate or such as have been wasted by the gout, the scurvy, or other lingering diseases, it often proves fatal - When the evacuations in the commencement consists principally of blood, the disease is more manageable than when they are composed chiefly of mucus or mucus streaked with blood. Vomiting and hiccuping are bad signs, as they shew an inflamma-tion of the stomach - When the stools are green, black, or have an exceedingly offensive death like odour, the danger is very considerable. It is an unpropitious sign when clysters are immediately returned:

; but still more so, when the passages is so obstinately shut that they cannot be injected. A weak and feeble pulse, coldness of the extremities, with difficulty of deglutition, and convulsions, are signs of approaching death - With these few introductory remarks I come now to consider the mode of treatment which is best adapted for the cure of this distressing malady - Should the febrile symptoms, as chills and heat, with full pulse, run high, it will be requisite to bleed, and even repeat it until we make a decided impression on the disease. But in general, leeches to the abdomen will detract a sufficient quantity of blood followed by fomentations or the warm bath, which may produce a powerful determination to the surface - as well as counteract the local determinations of blood; also

blisters and rubefacients should not be omitted. With regard to internal remedies – a brisk emetic will often be advisable, particularly where the tongue is very foul, the stomach over distended or marks of congestion in the liver appear; it may also, by inducing diaphoresis materially check the violence of the symptoms, may sometimes cut short the disease at once. Purgatives follow next in importance to emetics – To produce a natural evacuations daily, is a circumstance of the greatest importance in this disease, and should at all times be kept in view. To neglect this, would be like "Locking the thief in the house to do all the mischief he could." For which purpose calomel joined with opium in quantity sufficient to mitigate the pain may be administered and followed up by Castor oil neutral salts &c till they operate. In the interim mucilaginous demulcents

may aid to moderate the irritation
When the bowels have been thoroughly cleared
, it will be important to procure a steady
determination to the surface: and the
compound powder of Ipecacuanha is perhaps
the best medicine assisted by warm clothing
friction exercise &c Should the liver not
perform its office properly the continued
use of mercury may be necessary; to
restore the strength and relieve dyspeptic
symptoms: tonics antacids will be
serviceable, with a mild nutritious diet
; and great care must be taken to obviate
accumulation of feces — In the chronic
form of the disease, demulcents and
sedatives, may be freely employed by
the mouth or in the form of clysters;
the bowels may be occasionally relieved by
Rhubarb or other mild aperients. Astring-
-ents may often be exhibited with advantage
; but, in the first stage of the disease they are
productive of injurious consequences;
and should therefore not be given

In this disease the greatest attention must be paid to the patients diet. Flesh, fish, and every thing that has a tendency to turn putrid or rancid on the stomach, must be abstained from. Apples boiled in milk, water-pap, and plain light pudding, with broth made of the gelatinous parts of animals, sago-gruel, may constitute the principal part of the patients food and in all cases it is essential that the patient put on flannel next the skin, and wear stockings, or at least socks, when they rise to the closestool: for want of attention to this, many persons are lost, by constantly having the perspiration turned inwards upon the bowels. Great caution is necessary in returning to a full diet, and to former habits generally: the bowels are left weak, and are very liable to relapse: due temperance, and wearing warm clothes, are the requisites securities

An Inaugural dissertation

on Enteritis

Addressed to the Provost, Trustees,

and Faculty

of the University of Maryland

for the degree of Doctor of Medicine

By the Author

Henry I. Crofton

De. Enteritide

Inflamation of the intestines may be either acute or chronic: it is further divided into peritoneal and mucous; according as it attacks the peritoneal or mucous coats of the alimentary tube

Symptoms — Commences with a feeling of soreness or acute pain sometimes confined to a certain spot, more generally however diffused over the whole abdomen; the pain is of an aching or burning kind; constipation an almost constant attendant on the peritoneal variety — Pulse small, frequent and tense: becomes weaker and weaker as the disease advances till it feels at last like an undulating thread under the finger — The tongue exhibits a white coat or streak of brown fur along the middle and red margins — Whole great skin is hot and dry — Urinary secretion is small in quantity and high coloured — Breathing is more or less impeded, and chiefly accomplished through the medium of the abdominal muscles — Pain on the muscles of abdomen, more especially in the advanced stage of the disease, causes great aggravation of the patients sufferings. In order to take off their tension and relax them as much as possible, he places himself on his back, draws up his knees and elevates his shoulders — Nausea and vomiting are frequently distressing accompaniments of this affection, by which occasionally the

contents of the intestines are discharged upwards . . . .
Diagnosis – This disease may be confounded with pleuritis when it affects the arch of the colon; also with peritonitis and colic; from all those however it may be sufficiently discriminated by attending to the following diagnostic signs – In pleuritis respiration is chiefly performed by the muscles of the abdomen – in enteritis by those of the thorax – in the former pressure on the intercostal spaces increases the pain; not so in the latter – In colic the pain is alleviated by pressure on the abdomen, is intermitting, and the patient tosses himself about – the skin is of the natural temperature, inclined to be moist; in all which particulars, the reverse takes place in enteritis – From peritonitis it may be distinguished by the vomiting and greater violence of the pain – The muscular coat is supposed to be the principal seat of the inflamation in this variety of the disease — Its course is rapid; being especially prone to terminate in gangrene; this event is announced by the sudden remission or cessation of pain; sinking pulse – cold clammy sweats and hiccough.

Causes — Enteritis may be occasioned by sudden suppression of perspiration from cold – indurated faecal matter – external injuries – Spasm – strangulated hernia and translation of rheumatism gout &c –

Do Enteritide

Treatment— The most important remedy, in this dangerous malady, is bloodletting which should be practised, as soon as possible, after the development of the disease; and carried to the extent of inducing an approach to syncope— One blood-letting, if early employed, may be sufficient to subdue the violence of the disease; but if not; after the lapse of four or five hours we should repeat it, and exhibit a large dose of opium, this narcotic should be given in liberal quantities after adequate depletion; when thus administered it tends to allay the pain and spasms, on which condition probably depends, the constipation that attends this form of the disease and consequently to promote the operation of purgatives.

Enemata may be early resorted to, for the purpose of procuring alvine evacuations, and after the violence of the symptoms has been reduced, laxatives are necessary. The most appropriate article of this class is calomel combined with opium, from four to six grains of the former, with two of the latter should be exhibited every two hours, until the pain abates and the surface becomes moist; and be followed up with castor oil, so as to move the bowels freely— Should any pain or uneasiness remain after these measures, leeches may be applied with advantage, and followed by fomentations; emollient poultices; or blisters— tobacco in

De Enteritis

-ections are recommended — After the symptoms have yielded to our remedies; should the pulse remain sharp and irritated, digitalis may be employed with advan-tage-

The second variety of intestinal inflamation is where the mucous membrane is affected, in this case the whole or a part only of the structure may be disordered; the symptoms being variously modified, according to the particular part involved- When the duodenum suffers, there is a bitter taste in the mouth- appetite is impaired- Skin frequently puts on an icterode hue; and a preternatural fullness may be detected on examination, over the region of the duodenum When other portions of the small intes-tines become the seat of the disease, a tenderness to pressure is felt in spots- there is a sense of weight, and burning pain about the umbilicus- the tongue is coated along the middle with a white or brown fur and edged with a bright red colour- the bowels are loose or easily influenced

When the disease is confined to the large intestines, it manifests itself, by frequent mucous stools min-gled with blood and attended by tormina and tenesmus; the faces being obstinately retained- These symptoms taken together constitute that form of enteritis, which is denomi

-nated dysentery; to the nature and treatment of which, we propose to confine our remarks here-

Dysentery.

is usually preceded by the ordinary initial symptoms of fever Lapitude & Nausea - alternate chills and flushes of heat dry skin - thirst - Sometimes comes on suddenly without those premonitory symptoms: the fever may precede or follow the more characteristic signs of this affection - the odour of the discharges is peculiar and offensive at first, but becomes exceedingly so, in the course of cases tending to a fatal issue - the breath also becomes offensive - the gums tender and swollen, dark coloured stools of liquid consistence, anxiety and colliquative diarrhea are very unfavourable signs - Causes - The most frequent exciting cause is cold and moisture acting on the body after having been exposed to high atmospheric temperature, or when in a state of perspiration, and giving rise to congestion and torpor in the liver and portal circle - presence of irritants introduced from without or generated within may also originate the disease.

Treatment - The principal indications we have to fulfill in the treatment of this affection, are first to remove the irritation arising from the presence of any offending matters in

the prima viæ, and secondly to restore the healthy functions of the skin and liver which we always find more or less deranged - To answer the first indication we have recourse, in the first instance, to twelve or fifteen grains of calomel followed, at suitable intervals, by laxatives so as to move the bowels freely and gently; the best article we can select for this purpose is Castor oil, which, at the same time that it evacuates the contents of the bowels, seems, by its soothing influence, to defend and sheath them from their acrimony: Laudanum is a useful adjunct to the oil - calomel is also an appropriate laxative in these cases - To fulfill the second indication, we resort to the employment of emetics and diaphoretics, the former of which are particularly demanded, where the tongue is coated, and vomiting of billious matter takes places in the onset of the disease; They act beneficially not only, by throwing of offending matters; but also by determining to the surface, and quickening the portal circulation. The most eligible emetic in dysentery is ipecacuanha - The skin should be kept moist by Dover's powder combined with calomel - The Asclepias is also an useful article for this purpose. A free evacuation of the prima viæ and the reduction of the circulation, where the state of the pulse demands it, are essential preliminaries to the empl

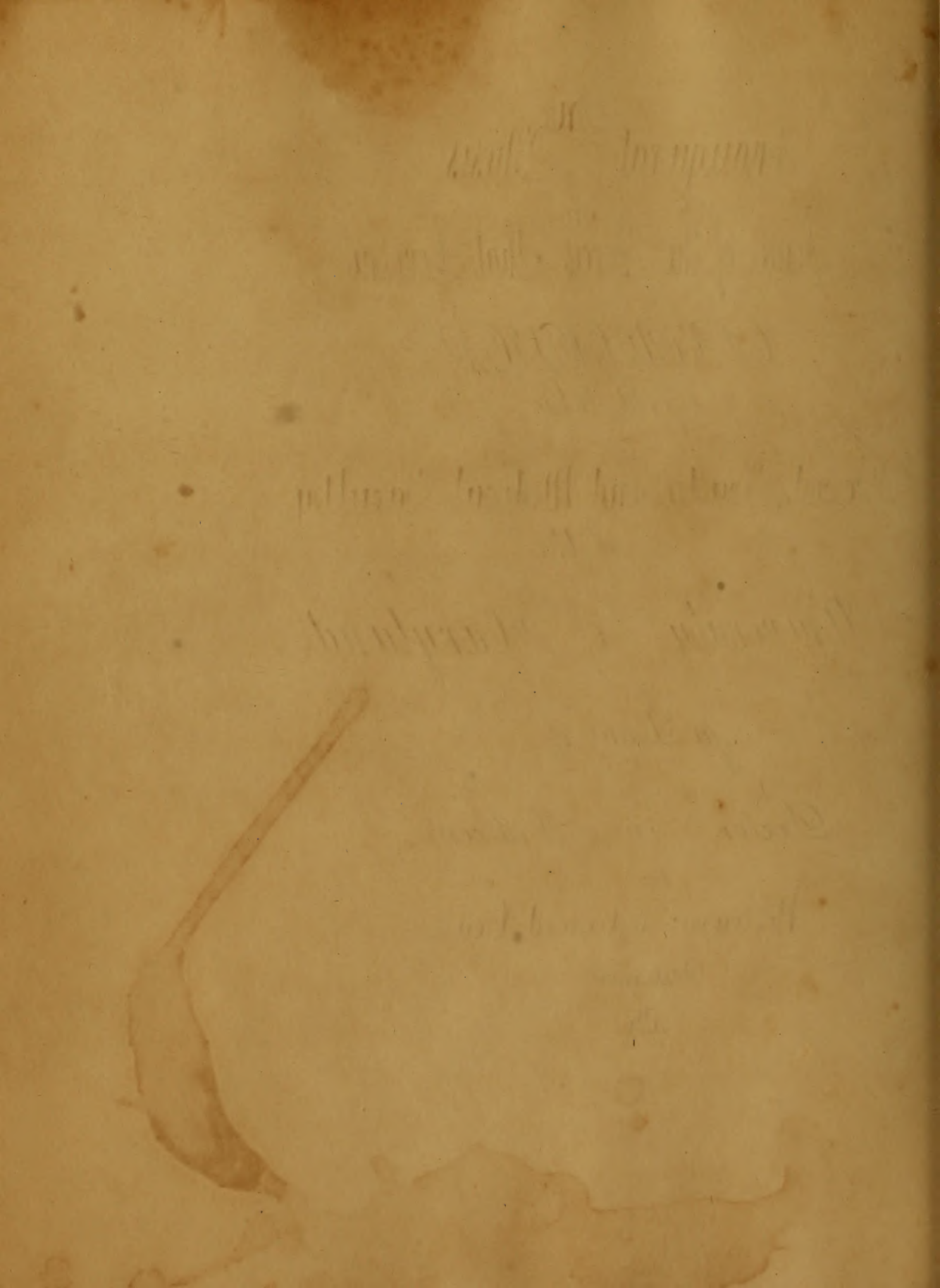
De Enteritide

-oyments of this class of remedies — Where there is great tenderness of the abdomen, leeches may be employed followed by emollient fomentations or poultices — When the disease has passed into the chronic form, stimulating frictions are recommended When the liver is deeply implicated, a slightly mercurial impression will be productive of the happiest effects — In the chronic state of the disease balsam Copaiva is highly recomend, given suspended, in some bland mucilagenous fluid, in doses of twenty drops three times a day: vegetable astringents are also indicated; and the body should be covered with flannel, or a flannel roller woin round the waist

A great variety of other remedies are recommended such as Sugar of lead; tobacco injections; blisters to the abdomen. Nitrous and pyroligneous acid are useful in correcting the fetor and improving the genial character of the Stools.

Throughout the whole course of the complaint the patient should be encouraged to a free use of mucilag-inous fluids, and debared from all solid food. During convalescence mild vegetable tonics such as Angustura, Chamomile flowers, with a diet consisting of liquid farinaceous preparations should be prescribed.

An Inaugural Thesis
on
Some of the Forces that Move the
CIRCULATION
offered to the
Provost, Trustees and Medical Faculty
of the
University of Maryland
for Degree of
Doctor in Medecine
by
William-Edward Coale
Baltimore
1836.



An Inaugural Thesis &c

From the many collegiate forms and customs of former ages, we have still left two, which, though in European Universities, they may be in consonance and have relation with the rest of their institutions, yet in this country have but little value or weight, if they are not positively useless, and in many instances bordering on the ridiculous. These are the delivery of a Latin dissertation which in many cases the reciever is wholly unable to construe or decypher — and the requisition of a thesis before he is entitled to the diploma

The first of these*, there may be some shade of reason for, in institutions devoted to instruction in the various branches of general literature, where a knowledge of the dead languages is required before a person is entitled to a degree — and there also the oration or essay may be in place — It is with regard however to medical education that I particularly speak

* For some very able and just remarks on this subject, see a review of Maddens "Infirmities of Genius" American Quarterly Review July 1834

Let us take a glance at the life and manner of education of the majority of the aspirants to medical honors— For the first few years of his life he has had the advantages of attending a school, where he acquires the rudiments of what is called "an English education", with possibly a smattering of Latin, a little French and — the Greek alphabet. By this the first thirteen, fourteen or fifteen years of his life are consumed. If he is more fortunate than most of his school-mates, he is then sent to college to spend a year or two in being perfected in the studies he commenced at school and here he is perchance initiated into a few of the mysteries of Natural Philosophy, and Chemistry — But how few are thus blessed?

At the age of eighteen or nineteen he is forced to look about for some means of obtaining a future support. Among other means of doing this, the profession of Medicine offers him a field which to appearance requires but cheap tools and little labor for tilling and which promises to yield him as rich a harvest with as few exertions as most others.— He then commences — attending six lectures (of one hour each) per diem. for four months of the year, and reading six "text books" the favorites if not the produc-

ions of the lecturers to whose dicta[x] he listens

In this way two years are spent in obtaining a <u>complete</u> and <u>full</u> knowledge of the Science of Medecine By however his memory is rather better than that of the majority, and if his powers of mental digestion have already disposed of the six dishes set before him, he may have time to nibble and taste those furnished by others – the composition and flavor of which he finds very different from if not diametrically opposite to those he has fed on previously, and on which he had so implicitly relied for intellectual nourishment.

Now after all this – when his mind is wearied and harrassed by the anticipation of the ordeal he is about to undergo – when his memory is racked and worn out by attempts to make

[x] I might have used a better word than "dicta", for though it might have been applicable many years since, when Medecine was governed by certain rules, and when its followers ranged themselves under the banners of a few prominent ones, to whose opinions the multitude implicitly bowed, yet now, when its teachers freely invite their listeners to inquire, and urge them not to take that for for granted which is not apparent by argument, it is not wholly just.

to yield enough to sustain him in that ordeal—when his ideas are clogged by the half digested mass of mental crudities which to devour, two years have scarcely sufficed—. Pray—after all this—he is expected to write a thesis or essay on some subject connected with the Profession he is about to enter—And how is he to do this?—The choice is left him of two alternatives—either to give a mere repetition of what he has read or heard during his collegiate term, or to give his own ideas on the subject—which from the opportunities he has had must needs be very extended—and—after endeavouring to make them clear on the position he holds, tenable—he finds they have like those of a Florentine servant* concerning the inventor of glass long since been completely controverted—or that the ground he has taken has been seized and fully occupied years before, by another.

Well—granted—that by hard struggling his mind yields him a few ideas which in due form

* Not precisely like these of the Professor mentioned, whose name has escaped me. His were proved wrong a short time after their birth—not long before. He wrote an elaborate essay of 250 pages octavo to prove that the Romans had not the invention of glass. A few days after the publication—a house was discovered at Pompeii—"glazed"

he commits to paper, prefixing to them the title prescribed by the college "An inaugural thesis in A. B. addressed to the Provost, Trustees and Faculty of the University of P. for the degree of Doctor in Medicine, by D. C. - What becomes of this precious morceau — this finished production? Who now receives the benefit of this new light? Who is enriched by this valuable treasure? Is it published to the world to astound the cotemporaries of the writer - to instruct future generations and hand down its author's name to posterity? No - This is not its destiny. Of yesterday no wreath to shade the temples of its producer, still heated and throbbing with his parturient efforts - nor does it raise him one step above his previous level - but it is entombed with some fifty or sixty of its brethren - (whose origin and existence have been like its own) - in "russia backs and corners" - and the only inscription on its mausoleum, is "Thesis" together with the date of its birth, with which its death is usually synchronous

Such is the nature, such the object, and such the end of the task I have now to perform, and such are the facilities and capabilities I have for performing it.

Expecting to graduate at the University of Pennsylvania where a premium is held out of the publication of the two best theses*, I made preparations for one, on the forces that move the circulation — collecting references to opinions, arguments and experiments upon the subject. I soon found that the task I had undertaken was almost an endless one. A statement of the theories already offered would fill volumes, and whole chapters might be devoted to the bibliography alone. Seeing that to treat it in a proper manner would require more time than a student could devote to it; and for other reasons, I abandoned it. Being impressed with the interest of the subject I have again resumed it but I do not intend to treat it as I at first expected to do. I must now restrict myself to some of the leading theories, first considering the structure and physiology of each of the four divisions (I divide the circulation into that of the heart, arteries, veins, and that intermediate between the two last-called usually capillary) from the phenomena presented by it when viewed singly. I shall then treat of the four divisions collectively, showing their relation with, and dependence upon each other — commencing however with a statement of a few of the theories prior to Harvey.

* This honor upon inquiry I am disposed to think equivalent to one of a Dexter University, where a certificate is given to the author of the best Latin thesis

The Forces that move the Circulation

The Theories of the Circulation

The Ancients were wholly unacquainted with the phaenomena of the circulation – both as to the formation of the blood, the office of the heart, the direction which the blood takes and its object.

Hippocrates does not mention it in any of his writings now extant, from which many conclude but I do not think justly that he had no ideas upon the subject. Aristotle gives us his views that shew that he was deeply in error. He supposed that the heart formed the blood which was carried from it by the veins, but he was wholly unaware that it was returned. Erasistratus was equally mistaken, and ignorant of the fact of the arteries receiving any blood, nor did the learning and investigations of Hierophilus throw any light upon the subject.

The next writer whose opinion we shall notice is Galen, whose Herculean mind after destroying the hydra of prejudice proceeded to cleanse away the An-

great mass of error and scepticism that had been blocking up for years the portals of Science. He leaving the road trodden by his predecessors struck out for himself a new path and approached so near the shrine of Truth as to almost obtain that wreath which afterwards bound the brows of the immortal Harvey.— We cannot follow him through all his arguments and opinions, but by actual examination and experiment he came to the conclusions — that the arteries contained blood, a fact never before even hinted at — that the blood arrived at the right ventricle — after passing in the liver — and passed partly into the left — through the septum — that the other part was carried to the lungs for their nutrition by the pulmonary artery, — and that a small part only was returned by the pulmonary ~~artery~~ veins.

The rest we shall pass over rapidly. In the 16th century Servet threw more light upon the pulmonary circulation, which was more fully elucidated by his successor Colombus, who also discovered that all the blood passed from the right ventricle through the artery but was still in as much ignorance as his predecessors of the passage of the blood from the arteries to the veins, and its return by the latter to the heart. Cesalpin next described the pulmonary circulation with great accuracy. He also by tying the veins, shewed that the blood flowed towards the heart — Which blood he sup-

posed was mixed with the <u>animal spirits</u>, the destruction of which caused the heat in the heart. This heat he supposed passed from the arteries to the veins. The blood the thought flowed out by the arteries from the heart during the day and returned during sleep by the veins. - Thus did he approach so near the truth as to almost leave a doubt whether his name and that of Harvey should not be coupled as discoverers of the true circulation.

At last Harvey produced his theory of the circulation which he demonstrated and supported by undeniable ~~arguments~~ arguments obtained from experiments and the construction of the parts themselves He shewed - 1st - That the form and attachments of the semilunar valves of the aorta and pulmonary artery only permitted the blood to flow from the heart and prevented its return - 2nd That the valves of the veins only allowed the blood in them to flow towards the heart. 3d He demonstrated the use of the mitral and tricuspid valves. 4th By putting a ligature around the veins he further elucidated the direction of the flow of the blood within them, and by cutting an artery found he could only arrest the hemorrhage, by compression between the heart and the cut - proving to a certainty his previous views. 5th He illustrated by dissection and

injection the communication between the arteries and the veins. Besides this he also gave some highly interesting speculations with regard to the quantity of blood in the body, the quantity impelled by every systole of the heart and the quantity used for nourishment of the body.(1)

This theory has now existed for more than two centuries and is universally believed to be the correct one, but concerning the immediate force that propels the blood, there is still much controversy, and I shall now proceed to examine into the various opinions maintained with regard to it.

(1) Exercitatio Anatomica de motu cordis & sanguinis in animalibus – 4to Francof. 1628.

(2) Galen de Usu Partium, Lib vj Cap. 10.

The Heart

That the heart is the chief and main power of the circulation no one can deny – but how far its influence extends in actual propulsion, and whether it is endowed with an active or elastic expansion has always been a matter of controversy. As our intention here is only to give the theories of those advocating its sole effect, We will not argue against them until we have treated of the other divisions, when we can shew the immense influence of other forces.

Harvey always maintained that the heart was the sole power. His words are as follows" Violentia opus habet sanguis, tum impulsore: quale cor solum est[1]." Spallanzani is also of this opinion and asserts that he is supported for the most part by Haller. The latter we will shew hereafter noticed the effect of respiration in causing an afflux of blood to the heart or a retardation of its progress – consequently he could not consider it the sole force. Spallanzani's words (translated by Tourdes)

(1) Gulielmi Harveii Opera Omnia, a Collegio Medicorum Londoniensi edita: MDCCLXVI; Exercitatio altera ad Riolanum; p.72-130.

ans thèse "Quoique Haller pense que les effets de la systole du cœur ne s'étendent point jusqu'au système veineux, il est néanmoins persuadé, contre le sentiment de plusieurs auteurs, que la circulation du sang dépend entièrement ou en très-grande partie de l'action de ce viscère"

"Mes expériences me paraissent établir cette vérité d'une manière si frappante, que j'espère en convaincre le lecteur le plus sévère. Je vais d'abord démontrer l'insuffisance des causes qu'on voudrait associer à la puissance du cœur: elles sont plus ou moins nombreuses suivant l'opinion des physiologistes."

His arguments as before stated will be considered under another head, but hear his conclusions.

"Le cœur cesse-t-il de battre? la circulation s'arrête à l'instant même: reprend-il son mouvement? elle se ranime de suite; et si l'on suspend ou renouvelle l'action de ce viscère, le sang discontinue ou reconvre sa vitesse ordinaire

"Les pulsations du cœur sont-elles enfin moins fréquentes? le sang coule avec plus de lenteur; il devient même immobile sur la fin de la systole, et son mouvement ne recommence qu'avec la contraction suivante. Il serait sans doute difficile de prouver avec plus d'evidence que le cœur est le seul et un-

ique motrice de la circulation du sang[1]

From this it is evident, as Marshall Hall observes "that his mistake was in supposing that because the circulation can be continued by the agency of the heart alone, it therefore is continued by the heart alone[2]

We will now proceed to examine whether the heart is possessed of an active or ~~passive~~ elastic expansion or whether the blood by being forced into it alone distends it.

The last opinion although supported according to Dunglisson[3] by the majority of physiologists we do not hesitate to pronounce utterly untenable, from the numerous experiments made with regard to it. That of Hamberger is sufficient. He shewed that when the heart is seized strongly by the hand, after its removal from the body, the fingers are forcibly separated during its diastole. Hamberger even supposed that the dilatation is a state of greater activity than the contraction. Bechlin[4] and Perrault also adopted this opi-

(1) Experiences sur la circulation: par Hall ang. ami Ouvrage traduit par J. Jourdes - Paris 1/p 261-266

(2) A Critical ~~Essay~~ and Experimental Essay on the Circulation of the Blood &c London 1831 p. 64

(3) Human Physiology Illustrated by numerous engravings. Phil. 1832. II p. 133

(4) De fabrica et usu cordis. Hied 1676.

ion though not to the same extent. Lemonnier asserts "la dilatation du coeur est un veritable effort, un mouvement actif qui se manifest encore dans le coeur arraché d'un animal vivant, quoiqu'il ne contienne plus de sang"(1) Adelon's(2) words are nearly similar and he also states that the dilatation precedes the ingress of blood. Roget(3) does not entirely commit himself, but suggests that were the particular direction, length and situation, of the muscular fibres better understood we might not have such difficulty in explaining the apparent singularity of a hollow organ distending and separating its walls, by an action within themselves.

We cannot admit of a power of this last species to be possessed in any manner. An examination into the laws of Mechanics, particularly those of the change of direction of a force, will clearly shew its utter impossibility. The fibres are either arranged around the organ in the relation of the superficies of a sphere to its centre, or of a tangent. Their contractile force must therefore be exerted in that direction. What mechanical power or provision is there that will change it ~~to~~ to an acute or even obtuse angle?

(1) Dictionnaire des Sciences Medicales - Art. circulation -

(2) Dictionnaire de Medecine - art. Circulation.

(3) An Essay on Animal Physiology - published by the Society for the diffusion of Useful Knowledge. London.

The only way we have of explaining the active or elastic expansion of the heart, is this. We know that a large proportion of its substance is composed of cellular tissue. This tissue during life and for a short time after death is continually filled and expanded by a fluid, a property described by Hastenstrait under the name of vital turgescence. By the contraction of the fibres this fluid is forced out during the systole. When the contraction ceases, the fluid returns, causing an expansion and consequent separation of the walls.

The Arteries

The aid of the arteries in propelling the blood has been much disputed. While many have sided with Harvey who says "Arteries dilatandi quia replentur, ut saccuti et utres, atque non replari quia distenduntur, ut folles"[1] the majority are of an opinion that they have an elastic contraction, and some contend for more than this — and a few even argue for a true muscular contractility. — These properties I should have previously remarked are ascribed to the middle coat.

Let us first see what anatomists say of the structure of this coat. Meckel[2] describes it as "firm, hard, dry, somewhat elastic, yellowish red and evidently formed of trans-

[1] Manual of Anatomy. trans. by Doane. Phil. 1832. Vol I. p. 113

verse fibres or to speak more precisely of fibres a little oblique. These fibres form from several layers interlaced and in general not readily separable. He thinks they differ from muscular ones in their greater elasticity, firmness, fragility, dryness, flatness, and want of cellular tissue in their interstices. This coat is the thickest of the three arterial coats and its thickness through it is absolutely diminished, as the distance from the heart is greater – increases relatively. Meckel thinks that the great force of the arteries is owing to this coat. Hodgkin[1] cites the fact of its frequently giving way and leaving the weight of the blood to be supported by the cellular coat as in aneurisms, as an argument against this opinion. Beclard's[3] and Soloquet's[2] (Rudolphi) descriptions agree much with the above. The latter adds that it putrefies with difficulty, and is much hardened by caloric. Haaff[4] and Tiedemann[5] call it a peculiar tissue. The former classes it with the yellow ligaments of the vertebræ – the lining of the air passages – the envelope of the excretory ducts – the corpus cavernosum, and spleen, and the ligamentum nuchæ of some animals. To the names of those who believe in the want of a muscular coat to the arteries from our examination into the structure, we may add those of De Blainville – Adelon – Dupuytren – and Rasori.

(1) Cyclopedia of Practical Medicine – Phila. – Article Arteries.
(2) System of Anatomy – trans. by Knox. p 642
(3) Elements of General Anatomy – trans. by Togno. Phil. p 270
(4) De systemate vasa sanguifera – Lubingæ – 1822.
(5) Physiology – trans. by Jourdan – Paris p 342. – by Gully & Lane Lond. p 147

The nerves of the arteries are derived both from the ganglionic and cerebro-spinal systems - and Meckel[1] says that they are more numerous as the arteries become smaller.

Berzelius has proved by analyses that the coats of the arteries contain no fibrine[2] and Marshall Hall found that they were not contracted by heat, which was the case with muscular fibre.[3] Bichat had previously made similar experiments, which were attended with like results.

We will now proceed to the opinions drawn from experiments upon the middle coat with the view of arriving at some conclusions as to its physiological action. We have seen that the highest Authorities on General Anatomy have denied it muscularity. It is not here a question of Pathology or of Structural Anatomy - but of Physiology - and though we do not contend for a muscular tissue, we still maintain that the middle coat of the arteries is endowed with contractility, and a property of alternate contraction and relaxation — that to a certain degree it is under nervous influence — and in short we care not by what name it is stiled - it has all the physiological properties of muscle.

The formidable opposers to this view are - Spallanzani who we have already shewn attributes all the power of the circulation to the heart[4] -; by Haller[5] ; by Bichat who denies any property but

(1) Oper. lit. - p. 115

(2) Traité de Chimie - Tome VII p. 84 - Paris 1833.

(3) Croonian - Essay on the Circulation - by M. Hall - p. 100.

(5) Memoire sur les parties irr. et sens. Sect XI.

(4) Exper. sur la Circul. Trad. par Jourdes. p. 261-266.

elasticity to the arteries near the heart, but who thinks that the smaller arteries and capillaries may have some influence on the motion of the blood;[1] by Nysten[2] and by Magendie[3] whose experiments are not very satisfactory; and lastly by the two Parrys[4] whose experiments we think directly opposed to their doctrine. Their arguments or rather assertions are these.

1st That no mechanical or chemical stimulus, not even the tearing apart the fibres will produce contraction of the arteries

2nd That when a portion of artery is enclosed between two ligatures it will not contract.

3d That irritation applied to the whole nervous system or even to the proper arterial nerves, produces no effect on them.

4th That the influence of opium - so powerful on other parts called irritable - is not felt by the arteries.

To these views we find a host opposed - among others we may mention Van Doeveren[5], Whytt[6], Cullen, Stahl and Von Gorter. With regard to the first assertion we grant that contraction does not take place in every case - nor does it in any tissue even muscular - but we have a mass of evidence to prove that it is produced sufficiently often to permit us to assert that it is the property of the arteries.

(1) Anatomie General. Tome I pp. 326-330

(2) Nouvelle experiences faites surles organes musculaires de l'homme &c Paris 1903.

(3) Journal de Physiologie Experimental April. 1820.

(4) An Experimental Inquiry &c - Bath. - Additional Experiments on the Arteries Lond. & H Parry

(5) Verscheir - De vi arteriarum et venarum irritabili - Groningen 1755 - p. 22

(6) Physiological Essays on the causes which promote the circulation of the Fluids - Edinb. 1755.

On this subject Becquet[1], Gorter[2], Glisson[3] and Senac have given special light as much by their own exertions as by turning the attention of others to investigation. The last caused the aorta of an animal to contract and dilate by pinching and pulling it.[4] Zimmerman published an inaugural essay on irritability which he elucidated by three experiments made on dogs. In two he produced contraction of the artery by the application of sulphuric acid - failing in the third from the exhaustion of the animal.[5] After him followed Bikker[6] and Van Den Bosch[7] both of whom assert that a contraction was produced by means of electricity. The most satisfactory experiments however are those of Verschuir, twenty one in number, performed on the larger arteries of dogs and other animals. After removing the integuments covering the arteries he irritated them with a scalpel and the clearest proofs of irritability were evinced.[8] These experiments were witnessed ~~and~~ by many individuals who confirmed their results, and they are corroborated to the fullest extent by John Hunter who also experimented on the subject[9]; by Zimmerman[10]

(1) Dissertationes Anatomicae
(2) Exercitationes Medicae de Motu Vitali
(3) De Ventriculo
(4) Traité de Structure du Coeur p. 227
(5) De Irritabilite - Göttingen 1751 - p 24
(6) Dissertatio de Naturâ Humanâ p 45
(7) Dissertatio de Viris Humani ~~Generis~~ Corporis Solidis - In App. Exp. 10.
(8) De vi arteriarum et venarum irritabili. Groningen 1766
(9) On the Blood and Inflammation - vol I
(10) Gefässlehre - p 67.

by Dr Dennison who repeated with success the experiments of Verschuir[1] by Lorry[2]: by Jones whose valuable elucidations of Hemmorrhage are rendered doubly interesting by his experiments[3] and by many others whom it would be impossible for us ever to recount or here.

This Bichat answers by saying that it is a chemical crispation (raccornissement) when chemical agents were used. This is disproved however readily from the fact that it is not constant which it would be were it a chemical effect. Were not the above sufficient we can add the testimony of Van Geuns, Lamure and La Fosse who saw the artery contract while contained between two ligatures. Van Geuns thought the arteries muscular from the strength of the contraction and in this opinion he is followed by Marshall Hall whose experiments are too numerous to mention but which may be found in his work on the Circulation already referred to. Monro[4] (elder) Haller[5] and Ludwig[6] had described the middle coat as muscular before - but more from its being the custom of the time to do so than from any opinion founded on observation. Lastly Home by several experiments of great interest detailed in the Philosophical Transactions showed that the nerves had great influence over the arteries - increasing and lessening the number of

(1) De arteriarum venarumque irritabilitate Groningen 1766
(2)
(3) De arteriae Sectae Consectionibus p. 29
(4) Edinburgh Medical Essays and Observations
(5) Opera Minora p 490
(6)

the number of beats contrary to the opinion of Mayer deduced from the apparent inertness of opium when applied to them.

Having given already our opinion we leave the reader to draw his from the facts here stated.

With these ill, compiled remarks I must now, but I trust not forever, take leave of the subject. Already has much time which could not well be spared been taken up and the day has arrived for handing in the theses. I therefore offer this, and trust that if ever it should meet a reader's eye, its numerous errors may be handled, not too roughly, and that it will be taken for just what it is intended viz - the compliance of a requisition - my opinion of the utility and value of which is fully given at the commencement.

William-Edward Coale
Baltimore.
Feb 23d 1836

An
Inaugural Dissertation
on Chorea;
Addressed to the Provost,
Trustees, & Medical Faculty of
The University of Maryland,
for the Degree
of Doctor Medicine.
By Jn° M Crawford.
of Maryland.
March 1836.

The term Chorea is derived from Χορος a dance; and the disease is also called St. Vitus' dance, because the devotees of St. Vitus exercised themselves so long in dancing, that their intellects became disordered.

Chorea, as described by authors, consists in disordered actions of parts controlled by the voluntary order of nerves; the functions of volition and of muscular motion being deranged analogously to the manifestation of the mind in mental alienation.
The disordered motions vary according to the number of parts affected, and the duration of the affection; Hence it may be partial or general, but it is more commonly partial, and mostly confined to one side of the body; and this is generally the left side.
This disease is often preceded by disorder of the organic functions; there is anxiety and feeling of oppression in the præcordial region,

slight chills and aching of the extremities; the appetite is variable, the bowels constipated; the chest is oppressed, there are frequent palpitations, and a feeling of tension in the forehead; the disposition varing between gloom and cheerfulness.

These symptoms are followed by the twitching of the muscles of the face, and these contin ue until the hands and arms are in constant motion; and also the lower extremities in fact the whole body, or one half becomes convulsed; different muscles being sometimes successively effected; but it has been said, that those first attacked continue so until the termination of the disease.

When the affection is fully formed, articulation is impeded, deglutition is often difficult, the eyes lose their brilliancy, the countenance is pale, and when very severe, conveys the idea of fatuity. After continuing sometimes, the muscles become more flaccid than natural, and emaciation takes place; vertigo and head ache are frequently complained

of. The pulse is but little accelerated, and the bowels are always constipated. The urine is generally copious and pale; The tongue and gums are pale; the former occasionally protruded; and saliva drivles from the mouth. The patient is generally irratable, and the mind is haunted by some concealed impression and idea.

Chorea is termed a paroxysmal affection. Generally several paroxysms occur daily at irregular periods, with little or no spasmodic actions during the interval. In some cases the recurrence of the paroxysms is strictly periodical; but this is rare. The duration of the paroxysms is from ten minutes to two hours; in fact there have been cases related in which the paroxysm lasted for six or seven hours.

The appearances found on dissection of cases are rather referrible to the complication than to the disease itself. In general the body is somewhat emaciated, and the muscles flaccid

and pale. The stomach, bowels, and associated viscera present only contingent lesions, but are nevertheless sometimes flabby and pale, with a slight effusion of serum into the peritoneal cavity. Dr. Hawkins found in a case he examined, besides increased vascularity of the uterus, earthy concretions in the pancreas, omentum, and mesentery, with tubercles in the lungs. In the fatal cases recorded by Drs. Prichard, Roeser, and Copland, adhesions of the opposite surfaces of the pericardium, with effusion of serum into it, and slight effusion into the pleura, were observed. In a patient which Dr Copland examined after death, the surface of the heart was covered in parts with coagulable lymph; its cavities were much enlarged, and their walls thin, pale, and flabby resembling the muscles of white flesh animals. M. Desperriere met with effusion of serum in the pericardium. Soemmering states, that he detected the result of inflammatory action in the membrane of the brain; and several authors have made mention of small ossifi-

deposits in the arachnoid of the dura mater.
Dr Cox found the vessels of the brain congested,
and twelve ounces of serum in its ventricles.
Dr Willan relates a similar case. Drs. Aliprandi
and Prichard have mentioned several cases
of disease of the Spinal cord connected
with affection of the brain.
Sauvages, Cullen, and many others make the
Pathology of this disease to consist of general
debility. Dr Hamilton attributed it to previous
and increasing derangment of health, as in-
dicated by irregular appetite and constipation.
Clutterbuck and Lisfranc to inflammatory
action of the cerebro-spinal axis. Taking a
view of the above, and considering the disease
in all its forms, it would be reasonable
to suppose, that it is produce by the vital
power being depressed, the organs performing
their function sluggishly, thereby giving rise
to the increase susceptibility of the nervous
system.

The disease may be produced through
the medium of the mind or senses, as by terror,

fright, moral emotion &c. or by those which act indirectly on the cerebro-spinal nervous system, by irritating or disordering the organic nerves, as gastro-intestinal irritation from worms, or morbid matter &c. The first by altering the condition of those parts about the base of the brain, which control the functions of the spinal cord, and through it, the voluntary muscles; the latter by disordering the functions of the organic nervous system, which, through their associations with the cerebro-spinal nerves, transmit their influence to the latter, and thus excite the voluntary contraction which characterize the disease.

Prognosis. Uncomplicated cases of Chorea are generally favourable. Its duration varies from weeks to years. When the disease has continued for a long time, it seldom fails to injure the intellect. When produced by terror or other emotions of the mind, it appears to be more formiable. The cases that happen about the fourteenth year in girls, commonly

continue until the age of puberty, and if the disease does yield to remediate treatment, it is very apt to return at intervals until the periods arrives, when they are prepared to take another character in the drama of their existence.

Treatment. There are three things to be attended to in this disease: viz. 1st. to remove all morbid secretion and fecal accumulation from the prima via: 2nd to subdue all vascular turgescence or irritation of the spinal cord or brain. 3d to rouse the energy of the organic nervous system, and the ~~vital~~ action of the assimilating, and secreting organs, and to impart strength to the frame.

Purgatives will effect the first intention, and if there should be worms, as is very often the case, oil of turpentine is required. From three to six drachms, according to the age of the patient, will produce a very good effect. But if the turpentine should fail to purge, Castor oil, Epsom salts, or Calomel may be given. The latter should be preferred.

To fulfil the 2nd indication, cups or leeches may be applied to the back of the neck, and after these cold effusion on the head, at the same time keeping the lower extremities warm; rubifacient liniment applied to the spine, or the tartar emetic ointment.

The third and last indication comes now to be considered. The best manner of accomplishing this, is to exhibit tonics. Cullen extolled the cinchona bark above every other remedy.

"Of the tonic medicines which have acquired a character in the cure of Chorea, deserve especial notice the preparations of Steel:

℞ Ferri subcarbon. Calumb. pulv. aa grov. m.f. pulv. bis die sumend.

I have witnessed the best and most indisputable effects from a scruple of the Ferrum ammoniatum, given three times a day. The Oxyd of Zinc, in doses of three grains three or four times a day, once enjoyed a high reputation, and it is reasonable to suppose that this was not obtained without some unequivocal cases of success from its use" (See Gregory's Practice Vol. 2. page 133.)

Drs. Physick and Young have made use of the Black Snakeroot, (Cimicifuga racemosa) and and the first speaks very highly of it in this disease. Fowler's arsenical solution, cuprum ammoniatum, Sulphas cupri, nitrate of Silver, iodine, the preparations of Iron, Sulphuric acid galvanism, musk, prussic acid, In short the whole of the materia Medica, have been used.

Dissertatio
de
Erysipelate
Pro gradu Doctoris Professorum
Universitatis Marylandiæ
examini subjecta
in gradum Medicinæ Doctoris
Auctore Daniel C. Mead

Feb. 2d 1836

+ Opera Dr. M.Intosh necdum vide.

Professoribus doctissimis & Universitatis Marylandiæ Salutem dicit. Ego

Ego omnibus recepso est. qui ad honores gradusque hujus clarae Universitatis iis perfunctus exoptant, ut suas Gentilitias scriptas de re medica daunt, mandatum exegi in tractatu, ut vulgo dicitur. Erysipelas. Hic morbus, ut bene scitis, hujus artis typocinibus raro tangitur, quia non saepe occurrit nisi in cruris aegrotantium. aut in asylis infirmorum, quorum locorum pauperis aditus conceditur.

Exordio tristo atque exiguo, temporis inopiae aut tractandi difficultatis, non incipiam. De morbo dicam quidem saepe annotavi: et quia mea sunt sententia mea ipso observata fuerunt: nequo ex libris collecta aut excepta. Minime vero intelligi volo, me aliquid novum indicavisse: hujus scientiae typo, si timeo occupaverit. valde opera peregit: dicere autem vellem, quod cum auctores in libris raro res singulatim notent. quibus adsunt pauca versatio figurarum aut inducta physiologica investigationes, Erysipelas, evidenter horum omnium sterilis ac infecunda. Summa ac mira celeritate ab iis peracta est: hoc modo igitur disperere de re inanima non ut videtur, in libris exercitationis omnino excusari potest: thesem autem ad gradus pertinentem paginasque pauca compositam, auctorem rerum informationem valde

tenuem exhiberet, ac finem perinsuavem aliis Scriptoris nuperrime pennatis injungeret. Res, me judice, partitionem latiorem ordinisve claritatem majorem ad medicinam excolendam postulat. Opera et tenuem meam experientiam dedi incepto.
Anne speram eventum secundum?

In primis medicinæ diebus, aut antequam scientia medica illustrata fuerat, industria, perseverantia eximiisque ingeniis virorum, quorum patria nostra partem honestam gloriatur, qui vires suas penitus dederunt, arti hactenus obscura, molecularium philosophorum placitis falsis, eorumque qui coercerent ac reprimerent vitæ principia, lineis stati quadra ac reguli; qui saxum ferirent, et fontes salutis, suo jussu manarent; hic morbus cum multis aliis imperfecte percipiebatur indocteque tractabatur. Diu nosologis dubio erat, qua in classe hic morbus collocandus sit; sententiis exiguis disciplinæ falsæ circumscriptis atque haud divina luce illuminatis quæ infusa est in mentibus feliciorum succedentium, mirum profecto videri debet, si umbras obscurissimas iis incumbentes perrupissent, et sapientiæ insuetæ, effusâ lætitiâ, exultantes, certas cognitiones arripuissent, scientiæ præsentis indagationes arcte contextas acumenque subtile ad confirmandam invocantes. Notas proprias atque distinctas ad accuratam scien dectandam breve considerimus et videamus an cum morbis propriis cutaneis conscribere debemus.

Hæc affectionum ordo cognoscitur quibusdam notis obviis se comites invasioni, occupationi ac curationi præbentibus. Hæc cum morbum in modo insigni ac sibi constante

cossitentibus pronuntiare diagnosin haud difficile erit. Hic caput
est morbum hujusmodi afferre contagium ut vulgo dicitur.
Auctores medici, absque, scilicet, Si non Sim alle, tenue certe
discrimine Sive infectionis Sive contagii.

Tale principium omnibus impingent adhuc morbo intactis, nisi
idiosyncrasia quadam salvos eos prastaret. Oportet comitari,
quibusdam indiciis, cunctis morbis ejusdem Speciei propriis ac
aliis affectibus forma audentis; eorum inter se discrepantia
penita mente facile deprehendit. Tale intervallum esse debet,
ut morbus desit delegari; eadem ordo hujusque observatio cum
naturitatem aperientes faciet; etas habitusque adversam valetu-
dinem patientis, ab agritudine recreationem magnopere mutuoque
inferunt, quamvis indices incipientes raro ab illis in modo in-
signe moventur. Proclivitas ad morbos proprios unaquam a
patre ad filios transmittitur.

Omne Erysipelas de quo tractatur, his examinibus probari
possit. Primum; observator imperitus censent similitudinem
claram videri posse; comparationem autem accurata sane fieri
non potest. Etsi ad hos plerumque ipsa primaria indicia
pertinent, vestigia tamen in superficie simul cum morbi
invasione aut die tertia, quarta aut quinta agnoscuntur.
Etsi illis consimilis, hac affectio comitatur ab eodem do-
lore ac cruciatu donec natura conatu, pellem superingectus

cuti; hoc tamen discrimen animadversione dignum habratur. aegrotum raro translatione subleuari. Francis in exemplis et quibus leuioribus. tempus maturitatis assumari potest cum in diem tertiam aut quartam. postquam morbus se prodiderit, vesiculae pauulae excitantur, sero exalbido ichorosae, quod extra cutem exudat, siccat ac defluens pellem secum trahit. Saepe autem, cutis sine vesicis, inardescit ac dehiscens labitur; attamen plerumque fit, ut cum in una parte hic exitus peragatur, in alteram morbus sese extendat: ut stricte dicam, nullus maturitatis periodus in hac affectione videtur. Nunc aegrotus apud diem tertiam, quartam aut quintam convalescat et quidem cum dolore parum insano, vires sanitatemque fere prastans; nunc vero tribus aut quatuor septimanis elapsis, morbus adhuc sese diffundit, viribus aegroti subactis: suppuratio profusa febrisque irritativa incitantur, sortisque dolores exitum infelicem claudunt. Nulla exempla ut existimo, in tabulis referuntur quod quis hoc morbo laboravit, alteri communicaverit, etiam si res peroportune cecidissent; morbus publice grassans ut hyemis exactis, ejusque occasio in valetudinarii cubiculis aut Infirmarii male ventilatis, prolationis causam semel explicabant.

Fuisse his diebus ejus Speciem simplicem inflammatoriis cutis cum phlegmone saepe sociatam, similem etsi latiorem iis affectionibus

membranarum cellarium fermentis vocatis. differentiis autem aperte significatam, quorum causa adhuc ignota sunt.

Causæ.

Hæ nunquam accurate perceptæ sunt, etiamsi plures quos scientia claros suis insignis agnoscit, eximia eorum ingenia atque artem intendendent ut vastationes ejus horrendas coercerent. Quoniam tam frequenter in valetudinarii curiis oriuntur, quin tam pertinax sit chaneleri et incolarum vitæ tam infaustus, investigare oportuit an morbi semina in domo ipsa non generari essent atque in rigorem proferri causis quæ eos omnino fugiebant. Ut has causas conquirerent, ægrotos morbo laborantes, uni curiæ soli infirmarii includebant a liis invalidis seorsum, veneresne indurentur vitiatis malariis halitibusque corporum eorum qui habitus malignos, iis demis propriis patientur. Clades luctuosa regne minor visa est. Conditio aris corrupta causas certe non explicaret, siquidem ii qui in excitationi communi, chirurgorum curam postulabant: perraro inficiebantur.

Animos denique vertebant in modum detergendi curias vicesque tabulatæ allucendi aquâ, ideoque tempus quoddam exigentia ut siccarentur, servos jubebant areas fricare secundo communi siccaque arena aut tam parum humida ut ea non madescerent, operamque conficere usâ arenâ calefactâ donec re

minima quidem vapor remaneret. Hac mos optima est, ut ita di-
=cam, ad formas periculosissimas et vim prævalentem impediendum;
morbus autem adhuc extat ut ingenium medici tentetur ac ut
idipsum deleatur. Strenuam ejus operam requirit.

Quantum in me valebat, ut affectionem observare poteram,
dum in Infirmario ad Baltimoliensem commoratus sum, tres
distinctas varietates habet etiamsi plerumque sese intermit-
=cent, ac ut necesse est, in formis. Signo proprio morbi communis
habituque ægroti efficientur.

Forma Pneumonoidea

Agnoscitur primo in aspectu, doloribus capitis tergi ac lum-
=borum acerbis, in epigastrio molestia maxime gravi, cute ari-
=da et sicca, pulsu pleno atque tenso: lingua exalbida pelle
obtegitur, omniaque indicia accessum morbi maxime ardentis
comitantia videntur. Diagnosis adhuc pronuntiari non
potest donec notæ propriores sese evolvunt.

Tamen vero si exemplum oriretur in valetudinarii cu-
=ris aut Infirmarii ubi morbus prævaleat, character ejus
instanter suspicaretur. Iterum si ea indicia manifesta
fuerint in ægroto, chirurgi, scaepio subjecto, aut ulcere as-
=pectus vulgaris laboret, morbus statim intelligitur, notis
antea dictis ac rubore indefinita ac inflatione mar=

Dr Macintosh refert ut omnia exempla hujus morbi aegrotatione interna praecedantur.

=ginis circumcingenti, qua accensa ac spongiosa cum cruciatu quodam pungenti videntur. Plerumque etiam cum membra inferiora aut supre=ma lacesset ac propter ulcus aut ullam inflammationem silam, linea rubra, callensque sublucida vasarum absorbentium cursum se=qui videtur summaque angore vexari. Cum ab agritudine inter=na ac natura conatu, eam a vitalibus amoliri, morbus oritur, sede super faciem et collum manifestabit; si autem ulcus simpli=cissimum sit in ullo corporis parte, actio morbida se illic instituit, circaque omnes pervadebit. Utrum ulcus vulgare morbum provocet et tam notata innata indicia incitat an quod tantum sit fo=cus censuraque reciproca irritaminis interni nescio; non autem ignoro quod homo mediocri sanitate atque quoad corpus, ul=cus vulgare habens, a morbo pene sine dubio aggreditur; al=ter autem viribus subactis, cute autem sana, intactus remane=bit.

Apud diem tertiam aut quartam post morbi invasionem, sedi in qua fixus fuerit, color ruberrimus invadit, lucida est et callens tactuique valde tenera, dolorem ac praemolestiam creans, pressurae digiti vestigia indicans, neque suffusa rubor, ut in Scarlatina deletur.

Celerrima ac strenuissima actio in hoc morbi genere requiritur. Detrahi debet sanguis a brachio, donec impressio decisa promovetur; quantitas regi oportet habitu atta-

=te viribusque agroti; necesse est bis terque plerumque iterari, rite=
=que vero parcius. Multa remedia ad sedem morbi applicantur,
quorum alicujus efficacia propria adhuc non dijudicatur, utinque
singulorum medicorum omnia decernitur, quorum complures his in
rebus tritâ quodam potiuntur. Vesicatoria affectâ parti admotâ
aliquando præcipuè florebant, quia creditum est, actionem mor=
bidam cutem et membranas cellares pervadentem irrumpere, alte=
=amque irritationem characteris sanioris inducere.

Permulti chirurgorum remedium potens etiam nunc credunt;
opinio autem plurium medicorum aliorsum tendit. Uterque admo=
=ta sunt ubi cutis validus color ac morbi exulcerantia sese
intermiscent; et cum in extremo alicujus membrorum hoc usum
sit. deinde zona cataplasmatum vesicantium duarum unciarum
=rum latâ circumcingitur. His, ut scio, sæpe utuntur ac ple=
=rumque cum felici; si morbi ipsius mutationem faustam non
provocant, fines ejus saltem definiunt.

Beneficia unguenti Hydrargyri præcipuè laudata sunt, propter
=ter argumenta similitudinis eorum qui actionem metalli de=
=siderabilem in morbis inflammatoriis plerumque experti sunt
ac qui eundem cum felicium in hac affectione prædicarent.

Dubitandum adhuc est num medendi ejus vires metallo
tribuendæ sint an vehiculo in quo adhibitus. Hâc de causâ
chirurgi larido puro usi sunt, effectumque secundum tale=

=runt. Dum credendum sit solo dicto horum medicorum qui fo=
=silem metallo in toto repugnant, judicium concedendum, pe=
=itis committo. Ego quidem unguentum Hydrargyri cognovi,
actionem quasi magicam exercere in illa Erysipelatis specie
qua lineam vasorum absorbentium morbum praecipue indicat.

Cucurbitulae cum ferro sedi morbi admotae, plerumque
utilissimae sunt, cum ut ritu fieri debet, venesectione assiduâ
remediisque deprimentibus praecedantur. Sed plures ferri inci=
=suras, cutis inflationem afferant, quae tantum doloris ac cruciа=
=tus aegroto affert. Sanguinisque detractio ex accensis atque conges=
=tis vasis capillaribus, in morbi sedem ipsam agens, actu aegre
ac experientiâ aliquin quietem aegroto inducerent.

Non speciebus autem gravioribus Erysipelatis phlegmo=
=nodis, aegrotus vix eas sustinebit. Scalpro cuticulam incidi pro=
=funde latequae perstringere objecto eodem responditur, paroxys=
=mi dationem mutatam affert; sanguinis fluxum perlevem detrahunt
beneficium optimum, viz, cutis tensionem relaxandi, dolor inci=
=sionum ac irritatione molestâ exaequatur.

Post cucurbitulas si iis aegrotus subeat, optimus, ut ex=
=istimo, admotus, est cataplasma cum pane lacte et lumbis
commistis, frigida aut calida ut aegroto grata fierat, adeque
levis ut dolorem pondere non adangeret. Oportet, si ullo modo
liceat, quinquies aut sexties in diem iterari, dum morbus saviet.

Medicamenta vomitum provocantia fere sunt necessaria; non solum quia ventriculum exonerant, secretionibus vitalis ibi generatis, sed etiam quia undique ad appressia incitata, actionem vasorum absorbentium provocant, eorumque pulsationem spectant.

Cum altiores diebus adhibentur, cathartica propriis quae remediis depurantibus conjuncta, morbi invasionem ferocem sape admodum cohibebunt, medicoque solum restat ut aegrotum via valde manifesta ad sanitatem redigeret.

Cum indicia gravioris cubiscentia in superficiem, se palam facientia, nihil admodum sublevantibus magis quam tensione aeque ac tensione ad cuticulam illatis adaudita: sic necesse est medicamenta alvi pravitatem incitantia adhibere, propterea rem morbi proclivitatem ad vitalia arripienda, majoremque difficultatem, suam gravitatem continendi, nulla excrementitia quae irritationem auctam provocarent.

In exemplis nitidis et cum morbus latam superficiem non occupet, ac declinare videatur, cuticula colore ardente mutata, inflationem remittit. Subfusa vidulus, crustulisque excidit, membranas exhibens quasi lymphae collectione indurata tactuique sensum apte praestans iis partibus cutis phlegmona adhaerentem cum granda echymatis ac in eodem fere tempore discessit.

Cum morbus lactationem austeram ad subagendam

postulat, proptereaque ægrotus vires debilis, videbitur in unam partem se diffundere dum sedes prior munera actionemque validam recuperat. Hæc conclusio certe jucunda est; cum autem propter quamdam idio-syncrasiam ut scripsere auctores, aut si ita dicam, frequentius quod morbus in invasione parum strenue refrænatus sit, inflammatio in sup-purationem dimittitur, medici scientia quod tractationem necessariam designandi probabitur; sententia sequitur et medicis præcepta, medicamenta plusve minusve stimulantia ægrotis actioni plusve minusve suppuratoria laborantibus adhibere debeant.

In hoc autem exemplo, sacculos substantiæ purulenta invenias in partibus hoc modo vehementia morbi sublevatis, cum in alteras inflammatio sese diffundat. Quæ cum ita sint, emplastra vesi-cantia sedi morbi perparcius sint applicanda ne in viribus mem-branarum cellosarum subactis, gangrana incitatione inducitur.

Factum singulare, ut in Cynanche Parotidæa, in Erysipelate quoque aliquando fit, cujus causa, haud scio an Dom. Gall et Spurtzheimo examinibus physiologicis explicari possit.

Cum morbus scrotum in cursu suo aggrediatur, capitis pertur-batio severa excitatur, phrenitis plerumque sequitur, quæ sæpissi-me ægroto exitium affert: feliciter autem natura in hac ut in alteris rebus provida, partes tam mutuo tamque infausto affectu motas, ab impulsu feroce, ut plurimum tuitur: ipse sæpe an-notavi, quod cum morbus ultro citroque se diffunderet, id in-

-tactum remaneret.

Erysipelas vera.

Haec forma etsi quibusdam Erysipelatis antea dictæ indiciis conjunctæ, vestigia comparati levia ostendit, eiusque ab agritudine recreationem plurimam habet. Dermoidea tantum membrana afficitur ideoque cognationes ingenitæ parum leviter commoventur. Cuticula colore purpuriore imbuitur, parum callida aridaque nunquam lucida aut inflata: neque sensus molestus atque pruriens forma phlegmonoidea huic adhaeret; lingua muco exalbido tenuiter obtegitur. Pulsus si non in toto immutatus, perlevem autem incitationem exhibens, paucaque indicia affectionem praecedentem indicantia videntur.

Tractatio simplex est; medicus pulsu perpenso judicabit si sanguinem detrahere necesse erit; utcunque ceciderit, una sanguinis detractio plerumque satis erit; exhibitio medicamenti vomitum provocantis i cautis antea dictis maxime proderit, quoque ac medicinarum alvi proluviem incitantium: his factis, natura reliqua omnia perficiet.

In hoc rerum statu, emplastra vesicantia, cucurbitula ferriquе caetera rejicienda sint, quae morbum ut ~~semper~~ credo, semper aggravant; aspersio autem avenacea aliarumque farinarum maxime laudata est; si frequenter iteretur, commoda est; alioquin vero

cuticula proxima, calefacta fit, sed sanguine irritantem potius quam mulcentem probet. Lotiones gelidæ incitantes in usu frequentius adhibentur atque exitu feliciore ut persæpe observare potui; Spiritus vini atque Camphora ac mistura ammoniata plerumque solent præscribi. Cum cutis aspera duraque remaneat, grana Camphoræ pauca cum Turneri aut simplice cerato trita, lenitatem ejus restituet.

In illa Erysipelatis forma, quæ cursum vasorum absorbentium occupat atque aut crisis morborum autumni deprimentium sit aut de margine cujusdam ulceris mali oritur, morbus status cognoscitur linea rubra, [illegible] inflata summaque dolore affecta, membra extrema percurrente atque phlegmonoæ vestigia terminis generaliter circumscriptis illustrat.

Cum interna ægrotationis apud crisim, ac censuram reciprocam fit, nulla insueta indicia videntur nihilque quam alvus solvi fieret, exigitur

Cum fit ut morbus corpori sese infigat et in cursu vasorum absorbentium exponat, si in habitu sano plenoque, speciem inflammationis phlegmonoideam exhibebit; si in statu infirmo maciequo confecto, forma Erythemosa sæpissime videtur. Hæ autem sunt conditiones, quæ typo morbi ætatis proprii movere possint.

Pro tractatione ad locum spectante, emplastrum vesicans

cordui toti vasorum ac censorium adnotum, unguentumque Hy=
=drargyri superficiei laceratæ adhibitum, inflationem plerumque
discutiat, partemque ad sanitatem redigeret.

Cur vesicatoria in hac specie commodiora esent, quam
in diffusa nescio: me autem experientia ita docet; si suppura=
=tio occurreret, sacculique formarentur, per ferramentum simile
pollicis scalpello, punctuaque minuta aperienda sunt, margi=
nesque abscessus emplastri adhæsivi fasciis circa membrum sunt
conferendæ. Cum materia purulenta puncto lato emittitur, aer
in cavum recipitur ulcusque malignum instituitur

An necesse est ut indicia enumerarem quæ supremis
singultibus vitæ expirantis præcedunt.

Cum vires debilitentur morbusque infirmentur sine notata
congerie in organis internis; dico notata, quod in his affectibus
ad exitum infelicem pergentibus, vitalia plusve minusve infici=
=untur; cuticula membranaque cellaris flentæ tumida ac infla=
=ta fiunt; pressura ab aura percolatione sonorum crepitantem
reddit; pulsus infirmus, lenis, ac incertus quasi crudelem ras=
=rationem suum provocaret; singultus signum inerrans, sæva
gangræna, ac horrens cruciatusque tremor, scenam horrendam
prægreditur.

Cum autem irritationis externæ derivatio, latentem
dolorem aut pneumoniam late incitat, medicus remedia

diriget ut opus sit, victus regimenque maxime amiciati cog-
=noscit

Per invasionem morbi ac occupationem, valde rigidum
austerumque praescribi necesse erit. Quare Summa mandatum si
non servetur, tota ejus scientia impediatur. Cum morbus, de-
=clinant aut aegroti vires impetu morbi fatiguntur, nullus enim
roborem vitalem tam strenue depimit, vigorem corporis sustenta-
bit diaeta levi farmacoque aut liberaliori si necesse videatur.

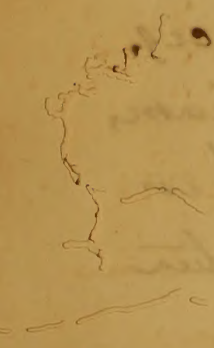
Caveat autem ne materiam jampridem accenso praebeat,
attamen ne plura dicam, judicio ac peritia subveniat ad
rem perficiendam tam maxime optatam, ut aegrotum ad uti-
=litatem integramque sanitatem redigeat.

Tractatio inauguralis.
De Digestione.
Inscripta
Præsesto. Rectoribus et Facultati medicinæ
Academiæ Terræ Mariæ,
Pro ordine,
Medicinæ Doctor,
Terræ Mariæ
A Thomas W. Stone.
1836

De Digestione.

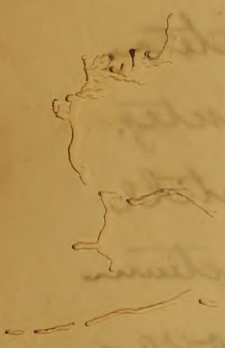
Digestio processus est, quo fit ut alimentum quod recipitur in stomachum certas mutationes patitur quæ nutritioni prosint. Alimentum post processum masticationis ab actione stomachi redigitur in speciem molis pulposæ chymi denominatæ, et postquam patitur mutationem ulteriorem in materiam, quæ propter similitudinem lacti floris nuncupatur chylus. Hoc est ultimum commodum organorum pepticorum propriorum; tum paratum est ad recipiendum in ductum thoracicum, inde funditur in venam subclaviam, ubi cum sanguine miscetur, et in proprietatibus omnibus assimilatur huic fluido.

Tractans argumentum digestionis, ego ordinabo in tres partitiones meas animadversiones. Primo organa digestionis describam; deinde de diversis materiis quæ in cibum adhibentur dicam;



et tum singulatim. enumerabo mut-
-ationes diversas quas cibus patitur
ex quo tempore in os accipitur donec
mutatur in chylum.

Organa quæ
subserviunt digestioni in tres partes
ordinentur: Prima sunt ea quibus
cibus mechanice dividetur in partes
parvas: secunda ea quibus materiæ
diversæ proprietates speciales pendunt,
et in molam pulposam denominatam
chymum redigentur; et tertia ea
quibus chymus in chylum mutatur.
Hæ tres partes hominis sunt dentes,
stomachus, et duodenum. Inutile
est dare hic descriptionem dentium.
Stomachus est saccus abnormis ova-
-tus qui supra abdomen transversim
jacet; quamvis ea membranis ma-
-xime constet, tamen musculis fi-
-bris multis instructus est, quæ
potestatem se contrahendi magnam



dant, et intus tegitur membrana membranâ densa glandulis clavata. Instructus est etiam abundantur vasculis sanguiniis, et tam multi nervi ei tribuuntur ut omnium partium corporis sensilissima est. Os quo cibus e stomacho expellitur, pylorus, ad duodenum pertinet, primam partem longi flexuosi tubi, qui canalem intestinorum constituit. Intestina, aque ac stomachus, ex tribus partibus vel tunicis constat præcipuis — membranacea, musculosa et mucosa, quarum prima dat formam, secunda vim contrahendi, et tertia secretiones præbet.

Articuli diuta in duas præcipue partitiones ordinentur — res animales et vegetabiles, quarum uterque vim vitam sustentandi habere videtur; sed cum conjunctæ sint optimum nutrimentum subministrant.

Incolæ regionum frigidarum diætâ animali fere omnino utuntur, contra, qui zonam torridam incolunt herbis tantum vescuntur, cum intemperata, ex his duobus mixtis cibis consistit. Hic ordo qui necessitatis effectus est, pariter videtur plerumque saluti singulorum ope benignissimus. Diætâ animalis portatile genus nutritionis præbet quod corpori dat plus vigoris, et subministrat ut portionem majorem caloris evolvere possit. Idem diæta vegetabilis æqualiter idonea videtur tepidis regionibus, quæ fructu et esculentis plantaribus abundant.

Compositiones primariæ animales, quæ diætâ solent uti sunt fibrin, albumen, gelatin, et adeps, — rebus quæ genera omnia diversa carnis comp-

-onent, pauciz exceptiz, conjunctiz in diversiz rationibus. Compositiones primariæ vegetabiles sunt fa-
-ina, gluten, mucus, oleum et saccharum - rebus quæ genera omnia diversa vegetabilium com-
-ponunt, pauciz exceptiz, conj-
-unctiz in diversiz rationibus.

Descriptionem dictæ articulorum an-
-tecedentium omnium dare in hoc scripto supervacaneum esset; itaque non expectan-
-dum est

In perpendendo effecta in sto-
-macho articulorum diversorum cibi, necesse est dicere ut differentia est maxima et gravissima inter quod plurimum nu-
-trimenti præbet et quod facilimum con-
-coctu est; certe non raro accidet, ut ea corpora quæ, magnitudine æquata magni-
-tudini, chyli quantitatem maximam præbere possunt non facilime afficiun-
-tur a stomacho. apparet et ut quantitas

certa, quæ considerentur quasi materia diluens digestioni confert vel juvat stomachum extrahere et præparare cum facilitate chylum, et ita quod nutrimentum parvum vel nullum præberet cum acceptum ejecto solum, utile fiat cum rebus aliis, quando propriis miscetur. Et misturam rerum multarum salubriorem ejse invenimus quam articulus singularis alicujus, quamquam maxime conjungat nutritûm et facilitatis concoctii proprietates duas. Has præteria dicamus ut inter organa digestiva singulorum diversorum differentiæ valde maximæ sunt, et ut hæ differentiæ ita mira sæpe sunt, ut similiores effectibus repentini animi motus appareant, vel consociationis contingentis alicujus potius quam qualitatis propriæ originali illi in conditionibus organorum digestivorum; tamen dubitatio parva

potest esse, ut praeter effectus qui
ad has causas investigentur, ipsa
differentia originalis existit in pot-
-estatibus digestivis singulorum div-
-ersorum, in modo eodem ac inter
classes diversas animalium est.
Rebus diversis ad nutriendum
corpus naturâ necessariis consideratis,
non sit alienum observationes paucas
facere, quae attinent ad species diver-
-sas liquidarum. Quae credantur aut
quasi ex aquâ constantes retinente
in solutione vel suspendio res naturae
alimentarias, facientes sorbitiones et
pulmenta, vel ut id quod potius
vocentur magis familiariter lqq-
-uens; fluida, quae adhibentur, non
ut nutritioni prosint, sed sitim
extinguere vel provehere digestion-
-em solidorum. Quarum aqua max-
-imi momenti est, quae certe basis
est ceterorum omnium.

Ha in duas classes dividuntur — infusiones vegetabiles et liquores fermentati. Priorum, thea et choava in hactenâ frequentissima sunt, et plurimis potus refrigerans et salutaris fiunt. Epitheton idem ad liquores fermentatos imbecilliores applicetur, si in quantitate idonea accipiuntur, et conditioni stomachi et naturæ constitutionis satis spectata, sed verisimile est ut spiritus stillati quanquam pretiosissimi procuratoribus medicis, semper necesse sunt plus vel minus perniciosi cum in diatâ adhibentur.

Classis etiam altera materiarum considereter, quæ in seipsis, non alimentaria sunt, sed quæ causâ dandi odorem ad nostrum cibum adhibentur, et quoque digestionem provehere, denominatæ condimenta. Ad duas series salium et aromatorum redigentur; sal comptionem cibi animalis

praevertere, et aromata cibum vegetabilem praevertere quominus eant in conditionem acidam.

Series momentosa est alia materiarum, medicamenta, quae non proprie alimentaria, quia nullum chylum continent; sed in stomachum vicissitudines producunt, quibus corpus conditionem salutis recuperare potest, cum quaevis functionum perturbata fuerunt. Cognitio harum materiarum constituit Materiam Medicam, itaque non hic tractabuntur.

Diversis generibus cibi breviter conspectis, nos, tertio, procedemus mutationes diversas describere quas cibus pati necesse est a tempore cum in os recipitur donec in chylum mutatur. Primo ut cibus stomacho idoneus fiat; necesse est ut bene manducaretur. Post confectionem, cibus in stomachum recipitur, ubi in pulposam molem redigitur denominatam

chymum.

Opinio inter Physiologos diversa est de materia hac. Nonulli dicunt ut specialis odor, et proprietates sensibiles alteræ alimentariæ materiæ in chymo non manent sed ut quodcunque genus cibi adhibeatur, eadem fiet moles. Alii dicunt et vere, mea sententiâ, ut chymus ex herbis digerendis ab eo qui est originis animalis, et præterea verisimile est, ut in conditionibus diversis stomachi personæ cujusdam, et ubi genus idem alimenti adhibetus est, chymus non semper qualitates easdem habet. Quanquam natura chymi accuratius perpensa est, non plane possumus explicare quomodo id gignetur; est quodam similis solutioni chemico, in quo corpus non solum dividetur in partes minutissimas, et adhesionem absolute perdidit, sed quoque proprietates novas

chemicas acquisita. Haec solutio ab experimentis numerosis confirmata est, quarum mentio hic non potest fieri. Opinio communis de productione chymi est, ut glandulae stomachi genus peculiare fluidi secernunt denominatum succum gastricum, cui proprium est dissolvere cibum. De natura et proprietatibus hujus fluidi mitto lectorem ad libros alchymicos, sed tantum dicam ut mutat cibum in chymum. Mutatio secunda quam cibus patitur in chylum est, natura et proprietates cujus penitus perpensae sunt. Manet hic dici ut postquam cibus in chymum mutatus est, in duodenum propellitur, et in hoc loco in chylum mutatur.

Chylus opaca est et alba materia similis flori lactis in spissitate cum primum

defluxibs e vasis; sensim coales-
-cit, et postea separat in crassum
coagulum, quod a fluido sine
colore circumfunditur, operatio
quæ videtur ope similis disjunct-
-ioni sanguinis in crassamentum
et serum. Chemicæ proprietates duo-
-rum constituentium chyli sunt
plerumque similes partibus san-
-guinis iis congruentibus, et chylus
præterea inventus fuit eas dem
species salium habere in eo; sed
discrepat a sanguine, quod sach-
-arum continet et materiam ole-
-osam. Denique credere possumus
ut et medicæ et chemicæ proprietates
chyli ostendunt, ut materia media
est inter chymum et sanguinem.
Modus quo chylus gignitur omn-
-ino ignotus est, sed scimus ut duo-
-deni contenta, paulo post relingu-
-unt pylorum, incipiunt in duas

partes segregari; materia alba constituens chylum, et materia relicta quæ postquam corpore rejicitur in formâ facium.

Chylus a vasis parvis paulatim recipitur, denominatis lacteis a rebus quas continent, quibus ad sanguinem transmittitur. Videtur certum esse ut chylus idoneus nullus in stomacho formatur, sed ut apparet primum paulo post moles alimentaria e organo hoc exit, ut quantitas maxima chyli non longe a pyloro existat, et ut sensim evanescit cum in intestinas parvas progredimur. Bilis et succus pancreaticus in duodenum funduntur in eam partem ubi chylus integerrimus est; unde existimatum est ut illi, (bilis et succus

pancreaticus, in chylo gignendo adjuvant; sed, praeterquod conjunctum, nullum testimonium hujus actionis est, nec ullam rationem modi possumus dare quo efficitur. Tantum quod dicere possumus est ut chymus in chylum convertitur, aut reactione partium componentium in se invicem ab operatione bilis et succus pancreatici, vel secretionum quarundem e duodeno ipso. Denique dicam, ut, postquam cibus passus est processum chylificationis, vasis lacteis recipitur, et funditur in venam subclaviam, ubi cum sanguine miscetur, et in proprietatibus omnibus assimilatur huic fluido.

Or

The Progress of Medical Science

by

Allen J. Bowie

Baltimore

1830

To

John Bacher M. D.

This Paper is respectfully
inscribed
As an humble acknowledgment of the high regard entertained
for his professional talents and private worth
by his friend and pupil
The Author

On the progress of Medical Science.

If the object of a thesis on this occasion, is to afford an additional opportunity for the Faculty to become acquainted with the qualification of the Candidate for graduation, it would be more prudent perhaps, were he to adopt a subject that would admit of the least expression of his own opinions. But from a sense of duty that is conceived to be incumbent on every Student who is about to enter on the callings of a profession so solemn as ours, to express freely and candidly to his teachers, the conclusions of his own mind — I shall consequently in this venture a free expression without fear, as my intention is not to assume a dogmatize, but to unfold the bias of my mind, that it may be adjudged and corrected or expose my ignorance if such it should prove.

The prescribed limit however, of this paper, will prevent anything like a minute detail of the very extensive subject that is adopted, and therefore it shall be confined only to the consideration of the general principles of the Science, and prominent views of the nature and treatment of some of the principal diseases, which appear most satisfactory, and which have been retailed from the different Chairs of this University, or which have been collected from general reading. — Such a course will afford ample opportunity for the candidate to express his views, and ~~will~~ give to the Thesis that importance which we can not help from believing is attached to it by the Faculty of all Medical Schools.

The degree of improvement which Medical Science has attained unto in the last two Centuries, is truly encouraging, and must give to the philanthropist high delight. The time is not remote when its invaluable object will be consummated to his just expectations. Certainly, no Science deserves for itself more attention than does the Science of Medicine. It is in its effects grave, sacred and solemn: the most important of all matters as it has for its end the most benevolent object, the relief of the afflicted, and the prolongation of human existence. — And the high elevation it has attained, rewarded as it has been and supported as it is by minds powerful and gigantic, has ultimately procured for it that universal admiration and veneration which its great object can never fail to preserve.

It is wonderful now to look back on its first history when the laying on of hands of the priest and the incantations of idolaters and all the mysteries of superstition were invoked as the true and only sources of its benign influence. — It is wonderful I say to conceive how a Science so entirely based on induction could have a source from which an origin unless we attribute it (as we have always to do when we are at a loss) to some wise design of the Creator who's works are all wonderful and mysterious. He perhaps intended it to show (at least to the credulous) that its origin was divine and we the more skeptical ones left either to doubt its origin and early history or to know that the human race has undergone a wonderful change, and that man in disease can no longer as in times of old depend on divine aspence, but must be operated on by earthy substances

and the operation of physical and not altogether of spiritual laws. It is often said that the science of Medicine approaches the nearest of all others to the Gods! I know, as the very name of Gods implies superstitious awe, and as Medicine is now based on induction and owes its high state to the inductive philosophy, we should (in boasting as we may well do of its superlative value) reverse the proposition, and tell of it as the science which since the revival of letters has been constantly receding from the Gods, and now approaches to least of all others the aid of superstition. But if, as may be inferred from the above allusions, I have no respect for the influence of the gods as was applied to medicine in the earliest history of the ancients, and as is even now manifested in the "panacea", yet, at an other period of their history it is truly gratifying and astonishing to find the sudden rise and rapid improvement of the science. Although we are chiefly indebted as will be seen, to the modern Anatomists, and to the philosophy of Lord Bacon, for the immovable basis on which the science now rests; yet, in the admiration of this philosophy, and labor of modern Anatomists, we must not forget or lose sight of the labor of some of its earliest patrons;—of the labor of Chiron, of Aesculapius, of Pythagoras, of Hippocrates and of Galen, who, in their turn produced such improvement over the vulgar superstition of their times, as to gain Medicine at once a respectable consideration, and to have secured for themselves the acknowledgement of those being it first

and among its wisest patrons. Indeed, in many of the views of Hippocrates, who has been styled the father of Medicine, and in the views of Galen, we can only find on contrasting them with the most modern, what we must always expect in the course of time, an improvement, and no great practical difference. "To Hippocrates we are indebted (says a distinguished writer) for the celebrated hypothesis of a principle styled φυσις which influences all parts of the corporeal frame, superintends and directs its motions, and which is possessed of a kind of intelligence, so as to promote all the actions, which are beneficial, and reject those which are injurious". And "we are indebted to him (Lessays) for other principles of a subordinate nature styled δυναμεις which are more particularly concerned in the action of the various functions of body". If to these principles, we can not entirely subscribe, and attach to them the same importance as the above writer, yet we certainly consider them important to be noticed as having suggested, we think, all the theories of life which have been promulgated to the present time. The archeus of Van Helmont, the anima of Stahl, the vis medicatrix naturae of Cullen, or Hallé, the vital forces of John Hunter, and even the boasted dynamicities of more modern authors, may be considered mere modifications, and as originating in these hypotheses of Hippocrates. We are astonished to find the ample resources he had recourse to in the treatment of disease: says Dr Bostock in his history of Medicine, "he administered purgatives, diuretics, and sudorifics: he drew blood both by the lancet and the scarificator: he applied the cupping-

cupping-glasses; he administered injections and inserted issues. He made very frequent use of external applications, such as ointments, blisters, liniments &c and was familiarly acquainted with the effects of external temperature; he paid particular attention to the regulation of the diet, and acquired great skill in prognostics &c."

So, after considering these varied and powerful remedial expedients, and the success which is said to accompany this practice, and which after all is the ultimate end in view, it might reasonably be asked in what consists the superiority of the present practice of medicine. If however, success accompanied this practice, it was because of his knowledge of the effects which experience taught him certain medicines would have when applied to certain symptoms, and not because the medicines met the pathological condition to be understood. There is a way of forming pathological notions by observing signs only, and there is another, the only true and philosophical and that is by studying the human body in life, and in death, and marking its aberrations from health. It is this last method of investigating the nature, and seat of disease, that has distinguished the moderns, and by which they have succeeded in arresting the science from hypothesis and uncertainty and placed it on a basis which is to stand the test of all ages.

To Hippocrates and his followers we are willing, very willing, to acknowledge all which from the most impartial consideration and examination is

found dear. but it is unquestionable to the modern that we indebted for the existing system of medical instruction. Hippocrates and Galen - both professed to have practiced from observation experience, yet Galen seemed at times all times more anxious to reconcile his practice to his hypothesis than to his facts, and bestowed much more labor on subtle and refined reasoning than on the investigation of morbid actions, or the generalization of his actual experience; and if Hippocrates practiced from observation and experience, his experience, could have only consisted of a knowledge of symptoms, and effect of agents, he is said never to have dissected a human subject, or any other subject. Often look upon the labor of the ancients to effect any nothing more than a knowledge of prognostics, a knowledge of symptoms of forming if I may so express myself a science out of symptoms, and acquiring the effects of medicines, without contributing any thing to physiology, pathology, or Anatomy.

In the Universities of Bologna and Paris somewhere between the fourteenth and fifteenth centuries anatomy was for the first time made the basis of the science.

Although we have some accounts of anatomy being taught as far back as the time of Ptolemies, yet it seemed to have been taught more for the advancement of the natural Sciences, than with a view to the improvement of the medical science, And even Galen who was supposed for a long time

to have acquired an almost perfect knowledge of anatomy, and did, actually possess more knowledge of anatomy than all his predecessors together, so great a predilection for theory, as to be more anxious to reconcile his practice to his hypotheses than to any facts founded on anatomical observations - So if anatomy is the ground work of the Science, it is to the moderns we are indebted for an almost perfect knowledge of it, and especially for the high state of improvement, which the Science by the indispensable aid of induction, has undergone. - By induction we mean the Baconian system of philosophy. The plan it employs is that of investigating nature and inquiring after truth; not by reasoning on mere conjectures as the ancients had been accustomed to do, but by bringing together carefully and patiently a number of particular facts and circumstances viewing them in every possible way, and drawing from a comparison of the whole some general principle or truth which may apply to all. This simple and only correct mode of reasoning prostrated the whole fabrick of ancient philosophy and now forms the only basis on which the arts and sciences of the present age depend.

We come now to speak of a period of medical history which most strikingly illustrates the value of the above principles of the Science and dates the era of its progress to perfection. Since the time of Bagliv,

Glisson, Hoffman, Boerhaave and his pupils Gaubius, Sorter, van Swieten, and more especially Haller, the Science of medicine has been entirely remodelled. The humoral pathology in its original sense was universally received and practiced up to the middle of the seventeenth century. Empirics and dogmatists, mathematicians and Chemists, and Metaphysicians, all amidst the war of opinions on other subjects, seemed to be united on this. It was not until the time of Glisson and Baglivi that this doctrine was successfully combated. They ventured for the first time the opinion, that the fluids are affected secondarily in consequence of a previous affection of the solids, Hoffman considered the fluids to be occasionally the primary seat of disease, yet in most cases he concluded it to originate in an affection of the solids, and this may be considered as the current hypothesis of the present day. The correction of this one error, has alone, effected inestimable changes in the practice of medicine. But to enumerate and speak of innovations that have been made, and the truly great and distinguished men who's names and acts are so intimately and properly connected with the history of modern science, would greatly exceed the prescribed limit of this paper, — it must then suffice to mention in addition to those that have already been mentioned, and without drawing any comparison of their merits, such names as Baillie, the Hunters and Bowers of Britain. Pinel and

Bresdet, Bronssais, Corvisart, Cruveilhier, Desgenettes, Laennec, Bayle, Louis, Chaussier and others of the French pathologists; or Bichat, Recd'Azyr, Cuvier, Richerand, Magendie, Edwards, Dumas, Legallois, Adelon, Dutrochet and others of French physiologists; and as belonging to Germany the names of Camper Blumenbach, Ludwig, Sommering, Meckel, Wisberger, Reil, Tiedman, Stein and Gmelin and others, Walter and others, Gmelin and Walter ale distinguished physiologists and anatomists, and each and all of whose names must forever remain bright ornaments in the history of the Science.

France is distinguished for its pathology, Germany and Great Britain for their physiology and Anatomy and our own Country we can add, has not pursued the different branches of the Science in vain, with a view to its improvement. Indeed, when we contrast the progressive state of the Science in this Country with that of France, Germany & Great Britain, I am persuaded we are not found wanting in merit of principles, or in number or merit of authors. I believe (however others may think and believe to the contrary) that all the Sciences, but more especially the Science of Medicine ought to be and no doubt is, at this time, pursued with as much Philosophy in this Country, as any other Country on the Globe. Man, is its great Subject and I can not conceive why man is not to be studied to the same advantage here as elsewhere. It is common to hear Americans boast of their foreign intelligence and medical instruction and claim

as a consequence a superior patronage for themselves.

If this was done as a mere matter of policy, subject as a matter of policy, or rather as an act of Charity, we might excuse them; but when other nations do, we ask is it just? does it talk of the native pride of Americans? or aside from this, does it in truth speak much for their foreign intelligence. They will find if they have studied as they should the works of many of their distinguished authors, the opinions which have always been entertained from the days of Hippocrates and which is true, that all Countries have their peculiar diseases; that diseases are peculiarly modified by climate and by the habits of mankind which are known to be different in different Countries; and if to these facts which are sufficient for my purpose, they will consider what has already been stated as facts, that the principles of the Science are as profoundly taught in the chief Universities of this Country as any other, and that there are ample opportunities in the different hospitals and infirmaries throughout the Country for attaining clinical instruction best adapted to our climate and people, it will be conclusive, that the physician who has thus studied the peculiarities of his own Country, is far better qualified to practice in his country, than the Physician who has been acquiring and applying the Science abroad. But in making these allusions it must not be supposed that we would deprecate, or even object in the least to foreign medical instruction otherwise than to defend our

our own institutions; but mean only to say that Universities abroad can hold out no advantages superior to our own, where we have the same subjects to work on, where we have as free an access to the books of their own distinguished men as is desirable, and where we have as strong native genius as can be found anywhere.

It is time now to depart from these general considerations of our subject, and begin to speak more particularly (as we promised we would) of some of the diseases which seem the most important to understand, and define, because the most common to be met with. The rest of this paper therefore shall be confined to what is understood to be the nature, so far as the nature is known, of fever, and inflammation, not presuming to advance anything as original; but only to express what is considered the most philosophical views of those that have been heard and read on these subjects.

Inflammation is a term still retained and used to a great extent in its ancient or metaphorical sense: that is, it is used to express the appearances of parts merely, such as redness, without intending to convey any idea of the causes which give rise to such appearance. It can of itself convey no other idea than that of redness, ~~in them~~ and a state of things which was supposed to be owing to flame, or excessive heat in a part. In this sense it was used by the ancients as expressing precisely

what they believed to be true as the cause of tumefaction and pain. But as this now known not to be the cause of that state or condition of a part which was inflamed, but as being only the symptom of that condition, the term should be rejected, and Sayre says that "like an old coin from which the original impression has been effaced should be forthwith withdrawn from circulation, as calculated to produce constant error and confusion".

Under the terms anæmia, and sthenic and asthenic hyperæmia, Andral — philosophically includes all the different lesions of circulation and conveys the <u>action</u> concomitant in the development of such conditions. He says a preternatural determination of blood to a part (hyperæmia) may be produced by superexcitation or too high an action in the part, or it may may be produced by subexcitation or a recess of action, and again it may be brought on by an obstruction of the veins. So, under the terms sthenic and asthenic hyperæmia, he conveys ideas by which we can immediately comprehend the nature, or at least the condition of a part, and teaches to know what has long been mooted, that inflammation so called can be of high or low grade, of sthenic or asthenic order. Man is made up of various organs each and all performing appropriate parts in the operation of the animal economy, and these organs although of different texture and appropriated to different functions, yet, in their action can be said to differ no other wise than in degree. They are stimulated to take on an action called excitation which is healthy so long as it continues proportional

to the strength of the system of which the organ is composed, and it is when all the organs are in a healthy excited state that the body is said to enjoy health. But if at any time an organ should become too highly stimulated then, irritation, or excitation, or in other words the vital action which has risen above the degree necessary for the maintenance of life supervenes, and the organ is said to be in a state of disease: and owing to the relationship which all the organs bear to each other, the organ which has first become preternaturally excited causes sympathy with the rest and in this way the whole system may become morbidly affected. "Irritation (says Andral) plays the same part in disease, that excitation does in health". All organs then, are in a state of excitation during the performance of the ordinary functions of life, but whenever an organ is excited preternaturally, an increase determination of fluid is immediately directed to it, so that excitation or the healthy action by being stimulated up to irritation gives rise to that morbid condition which is termed high inflammation or sthenic hyperaemia.

The agents that excite to irritation are as numerous as matter is various. The blood itself which is ~~originally~~ the healthy and natural stimulus, may be so modified, so to give rise to irritation: it may become too rich, too abundant, or so altered in its vital and chemical properties, as to give rise to, and even become the seat of disease.

The treatment of hyperaemias must vary with its order. In hyperaemia of the sthenic order, depletion, direct and indirect, anodynes, refrigerants, emollients, and

all sedative agents must be resorted to. When the inflammation is seated deep in some important vital organ, after general reaction and high inflammation has been subdued, and there is left no general morbid sensibility or highly augmented irritability of the system, then, revulsents applied to less important parts in the vicinity will be attended with the happiest consequences. But if the remote organs have deeply sympathized and become heavily afflicted with the primary seat of disease thereby giving rise to the morbid sensibility or irritability above alluded to, revulsents would be highly improper, would tend to aggravate every symptom. In such Cases of pleuritis in large doses is the Quinine, the magnum donum dei.

In all hepatic inflammations or asthenic hyperæmias, tonics and stimulants must be used.

In making these crude and imperfect remarks on the Character and treatment of hyperæmias, I might in illustration and support of the views here given, cite a number of interesting cases which it has been my good fortune to attend during eighteen months residence in the Balt City & Co. Almshouse, it would however open to a great length this paper which we have thought best to confine to general principles.

We come now to fever; and what is fever? Before any answer is given to this question let us review some of the opinions of those men who have been most influential and distinguished in their times, and to whom we are indebted (for we consider all we are about to mention as having contributed) towards forming the opinions which are now entertained of fever and but which even now are very imperfect.

It does not appear that the ancients had any idea of fever as an essential disease, or any other disease. They believed fever to be heat, and heat fever; and that this heat was owing to an effort on the part of nature to expel & get rid of an excess of one or more of the four humours, blood, phlegm, yellow and black bile, which they believed invariably constituted disease. This opinion was entertained for a long time and may be said to be the prevalent one until the time of Cullen. Even Sydenham, (a greater man than whom has never been engaged in the prosecution of any science) considered fever altogether as a curative process set up by nature to separate and expel the vitiated particles from the blood, and that it was acute, or chronic, mild, or other wise, in proportion as Nature accomplished her object suddenly, or slowly. Cullen however, upon the suggestions previously given out by Hoffman, Stahl, and others ventured other views, and at least boldly built up a system which, although more in conformity with the knowledge of structure and functions of the animal body, yet, is in truth founded in as great an error, and supported by as unfounded assumptions. He believed

fever to be the vis medicatrix naturæ vigorously exerted to restore the diminished energy of the brain induced or brought on by remote sedatives powers applied to the nervous system. That all morbific substances produce primarily debility; that this debility induces the cold stage, and a spasmodic constriction of the extreme arterial vessels, and consequently the blood is thrown back & rather accumulates in the large arteries and the heart, thereby giving rise to irritation, and an augmented action of the heart and arteries which continues until the spasm of the capillaries is over come, and the energy of the brain restored. Brown, who's theory of fever, is the next most important to be considered, differs very little, says Southwood Smith, from Cullen his preceptor. but it appears to us to differ more than it is generally said to differ. he, this true attributes all fevers to debility, but to two kinds of debility, direct, and indirect, and endeavours to explain it in this way— that the living body posses a specific power termed excitability, which power, when acted on to a certain degree, maintains the healthy function of the body. But if to this power, a morbific, or highly stimulating substance should be applied, so as to excite it greatly beyond its healthy limit, then, exhaustion, or direct debility is the consequence. a should the unhealthy stimulus be such as not to exhaust, but only to preternaturally increase this specific power a property it then becomes indirect debility or what he calls accumulated excitability. So, according to Brown's views there are sthenic and asthenic fevers, but Cullen's fevers

consist invariably and essentially in debility and the reaction manifested in the System during fever is not the action of disease but of health and is what Physician must assist in order to remove the disease ~~which is debility~~. Broussais defines fever to be a sympathetic irritation of the heart and arteries the primary seat of irritation to be in the mucous coat of the Stomach or the Stomach and intestines. Clutterbuck before him thought the primary seat of irritation was in the brain, and this constituted the difference in the theories of these two men. But in the whole catalogue of Medical men who remain distinguished for their contributions in the healing art, F. J. V. Broussais must certainly rank among the first, if not the very first. With a mind naturally strong, and made powerful by philosophical research, and with zeal persevering and unterring, he has built up a system of pathology and physiology which has secured for himself the just title of "Father of the Physiological doctrines". However physicians may differ (and very properly too) from the ultra doctrines of Broussais, yet, they can not deny that their views and their practice have been greatly modified by his. That fever is inflammation and an asymtomatic disease, we can not ourselves believe; and that the mucous coat of the Stomach or the intestines is invariably the seat, or radiating point, of disease, we believe too, to be of those errors which a great mind may commit when over anxious to establish its favorite peculiar views. But the importance attached, and the attention which Broussais has caused to be paid to the

stomach and intestines, and his established laws of sympathy, will be sufficient to immortalize his name, and for ever hold in just estimation the merits of his labors.

We should like to dwell longer on the theories above alluded to, but our paper is already getting too long and in conclusion we must now state in as general terms the theory of Southwood Smith on fever as being the most beautiful and philosophical and as being the one which we have adopted as our own.

In answer then to the question what is fever? we say with Southwood Smith that "it is a series of events; and the object of inquiry is to discover what the events are: what are the events that invariably concur in the series; and in what order they customarily succeed each other. When (he says) we have discovered this, we have ascertained all that we can ever know of what is termed the nature of fever, as in it is this and only this which we can ever know of any object of perception!" And "the order of events is first derangement in the nervous and sensorial functions; this is the invariable antecedent; secondly, derangement in the circulating functions; this is the invariable sequence; and thirdly, derangement in the secreting and excreting functions; this is the last result in the succession of morbid changes!" Fever then according to Smith is an essential or idiopathic disease, and in this respect differs from inflammation as it likewise does in the order of its development. It differs in degree its variety is as the difference of its intensity and as

modified by the nature and the peculiarity of organs that may become involved. Under the terms Synochus Mitior and Synochus gravior, Typhus Mitior and Typhus gravior modified by a predominance of cerebral, thoracic or abdominal affections, and petechiæ eruptions, Cullen & Smith has embraced with his one principle all those varieties of fever which other authors have mentioned as differing in kind, and degree, and which have constantly embarrassed and perplexed the Student. Cullen and Smith's theory then appears to us to be the most simple beautiful and comprehensive of any that has yet been devised, and which we have consequently adopted as our own.

Of the treatment of fever we shall say nothing as it must always be modified by circumstances we have not room to enter into a consideration of the proper adaptation of such circumstances, but in conclusion we would venture as an opinion that the greatest desideratum in medicine is a work on the treatment of disease, a work on practice, and we hope it will not be long before such a work will be supplied by some of the learned Professors of our own University.

Finis

An

Inaugural Dissertation

on

Respiration

Addressed to the Provost,
Trustees, & Medical Faculty of
The University of Maryland

for the Degree
of Doctor of Medicine

By

Addenton Maddox

March 1836

Respiration

Though aware that this — my first attempt — has but little or no claims to originality, in point of scientific knowledge; yet believing as I do, that it will meet the eyes of an indulgent though highly intellectual body, I deem it superfluous to offer any palliating preliminaries.

As a subject of my remarks, I have ventured to select from the science of Physiology, that wonderful act of vitality — the function of Respiration.

In preparing a dissertation upon this interesting and very important attribute of all animal existence, my design shall be to confine my remarks principally to the phenomena of sanguification or arterialization

together with the apparatus by which it is accomplished, and content myself with only a cursory notice of the numerous tissues and organs acting as remote agents in the performance of this function. Although these last present important considerations, a particular discription of them would require more space than could be allowed here, to do them justice.

Before entering immediately into an examination of the respiratory apparatus and its mechanism, let us take a general view of the function itself, for certainly this is one of the most important functions of animal life; the mere suppression of which, even without organic lesion, occasions immediate death. As regards its important relation to the vital machine, a good similie may be drawn between its operation and that of the great water wheel of a mill, both being the prime movers of its respective machinery. The dark venous blood of the

pulmonary artery, coming from the right ventricle of the heart, and circulating upon the air cells of the lungs, is brought in contact with the air, where, on becoming depurated of its carbonic acid, and at the same time receiving oxygen from the air, an important change is effected in its properties, which is directly essential to life; for without this, no living thing can exist. Notwithstanding toads and other animals have been found imbedded in the heards of living trees, and encased in solid stones; it has been proved by the experiments of Edwards, that they receive oxygen through the porous arrangement of the bodies inclosing them. In some of the lower orders of beings, such as the cold blooded animals, the organs of respiration and circulation are very imperfectly developed. Let us now see how and where nature has arranged the various tissues and organs composing the respiratory apparatus of man.

First in consideration, we have

for the receptacle of the lungs, an osseous frame work – termed the thorax, bounded anteriorly by the sternum, posteriorly by the dorsal vertebra and laterly by twelve ribs on each side, of which the seven superior ones are termed the true ribs and with their long cartilaginous extremities articulate directly with the sternum; their cartilages being elastic, and the ribs obliquely situated, they are easily elevated during the action of the respiratory muscles. The muscles of the respiratory apparatus are numerous; the abdominal, the intercostal, the diaphragm, and when respiration is difficult or hurried, it is assisted by the muscles of the neck and all those of the superior part of the thorax. The most important of these, are the diaphragm and intercostals, which carry on respiration in the simple and undisturbed state. The organs of respiration are the Larynx, Trachea, and Lungs. The Larynx forms the upper portion of the windpipe, and is composed of five pieces of cartilage, which move on each other by means of articular surfaces. The

superior piece is termed the epiglottis, and is the door-keeper to the air passages. It has also, several muscles, and is lined by a mucus membrane, which is continuous with that of the mouth, and lines the whole of the air passages. The trachea is a continuation of the air tube, commencing at the inferior margin of the cricoid cartilage, and terminating in the thorax by two ramifications, called the Bronchi. It is composed of cartilage, muscular and elastic fibres, and mucus membrane. Its shape is cylindrical, this configuration being maintained by its cartilage. A fibrous tissue connects its cartilaginous rings, and gives it mobility. This fibrous tissue continues on to the most minute ramifications of the Bronchial tubes, in which it is arranged in circular series, and when in a morbid or irritable state, sometimes gives rise to the phenomena of dyspnœa.

Proceeding now to the consideration of the lungs, their structure elicits a more

minute examination than the two former organs. Broussais ingeniously compares them, in conjunction with the trachea to "two berries on one stem"; a comparison that would do very well, if with it, we could at the same time convey the idea of the stem being hollow, and its calibre extending by dividing and subdividing throughout the whole structure of the fruit.
The lungs are two highly organized bodies, situated within the thorax, and connected above by the bronchii. They are irregular, though somewhat conical in their shape, having their apex upwards, and their base resting on the diaphragm; one being placed on each side of the thorax and maintained in its situation by a fold of the sac of the pleura, which closely attaches itself to the lung. The other portion of the sac lines the anterior and lateral wall of the thorax, and its inner surface is always in contact with that portion covering the lung; for when the thorax expands during respiration, the elasticity of the lung, with the ingress of air, causes the organ with its pleura to expand in an equal

ratio, filling up exactly the cavity made by the expansion of the thorax. The lungs are of a pale yellowish red colour, interspersed with black or brown spots; they are of a very light texture, and swim on water, being less dense than any other organ of the body. The structure of the lungs is composed of a variety of tissues. In which of these reside its highly elastic properties? Can this belong to all? The lungs are composed of arteries, veins, lymphatics, nerves, cellular and fibrous tissue. For the nourishment of its structure, it receives arteries direct from the aorta, which anastomose freely with the pulmonary arteries, and are called bronchial arteries. The corresponding veins empty their contents in the vena azygos and left superior intercostal. Besides these, the lungs receive a far more extensive set of blood vessels, which pass through their structure to have their contents purified for the nourishment of the whole living system. The pulmonary artery, conveying dark venous blood, arises from the right ventricle of the heart, and dividing into two branches, one for each lung, penetrates the

root of that organ, and by dividing and sub-dividing following the bronchial ramifications to their ultimate divisions, their capillaries are extensively distributed upon the vesicles or air cells of the lungs. They have corresponding capillary veins arising from their extremities, which by frequently uniting, increase more and more in calibre, until they arange themselves into four large trunks, two coming from each lung, which pass on to the left auricle of the heart, into which they empty their contents. The lymphatics entering into its structure, are connected with ganglions, situated around the bronchi and terminate in the thoracic duct and left subclavian vein. The nerves of the lungs, are received from the eighth pair, also some from the great sympathetic; They are principally distributed upon the lining membrane of the air cells. Muscular tissue also enters into the structure of the bronchial tubes, and is disposed in circular fibres throughout their ramifications. These tubes are besides supplied with elastic fibres, which range longitudinally from the lower part of the larynx, to their

termination. Lastly, the cellular tissue is found the most abundant of all, and connects or holds in order the preceding tissues.

Having now taken a brief survey of the respiratory apparatus, with its anatomical relations, let us proceed to examine its physiological action. Its special functions are, the "aination of the blood, pulmonary exhalation, and the production of sounds." The two first seem closely connected, and the last, is only a modifications of respiration. An inquiry has been instituted, as to how, and by what cause, respiration first commenced, also by what means it is continued through life. These inquiries have given rise to a host of hypothesis. To account for the first, the most plausible conjecture seems to be, that the stimulus of atmospheric air, together with the immediate demand of the system, for a supply of that arterial blood which it was accustomed to receive while in the uterus, and of which it is now deprived, calls into play the respiratory muscles. But to this it may be objected, that respiration

commences before the cord is tied! To meet the second inquiry, not even a plausible hypothesis can be found. We must first find out what the vital principal is, and then we may be able to reason why and how, the various functions are performed. It has been a matter of conjecture also, as to what tissue has the sense of perception, or rather takes cognizance of the want of respiration. This is closely allied to the two former inquiries. Bronssais, in speaking of it, says "vainly would we refuse a determinate seat to the want to breathe, or vaguely locate it in the nervous apparatus, or in the brain": he then goes on to locate it in the mucous surface of the air passages. What is the mucous surface? Is it destitute of nerves? Is any other but the nervous tissue capable of perception? It certainly seems most probable that the filaments of the eighth pair of nerves receive the impression first. He admits as most authors do, that the impression is conveyed to the brain by means of the eighth pair of nerves, but leaves us to conclude, that its filaments receive the impression from the

mucous surface.

Leaving these hypothetical points, we proceed to a more important division of our subject — the mechanism or mechanical process of respiration.

By the term respiration, we include both the phenomena of inspiration and expiration. The former of these is active, but the latter has been by some considered passive. The pneumo-gastric having communicated to the brain the want of fresh air, this organ (in ordinary or undisturbed respiration) calls into action the diaphragm and intercostal muscles. The former by contracting or descending, and the latter by their simultaneous contractions, elevating the ribs, produce an expansion of the chest. The lungs being every where in close contact with the walls of the chest, their high elasticity, aided by the pressure of the atmosphere, causes them also to expand in their turn, and follow the receding parietes of the thorax. The trachea in the mean time having a free

communication with the atmosphere, the air rushes in to fill up the vacuum. This, briefly, constitutes the act of inspiration. After an inappreciable lapse of time, the intercostals and diaphragm relax, and the elasticity of the lungs having no antagonist, the regain their former dimensions. The expulsion of air can not entirely depend upon the lungs regaining their quiescent state; for then it would appear that their elasticity is exerted with greater force at one time than at an other. It seems highly probable that the elasticity of the cartilage of the ribs exerts some influence in expiration; notwithstanding it has been asserted that they are frequently found ossified. Because this is the case, it does not follow of course that expiration must cease. It also seems highly probable that the abdominal muscles assist ordinary as well as disturbed expiration: for when they are distended by the descent of the diaphragm, their exertion to overcome this distention, after the diaphragm relaxes, must necessarily push up this muscle, and consequently compress the

lungs. In objection to this, it has also been urged, that expiration goes on when these muscles are found wanting. The concluding remark with regard to the power of the ribs, is equally applicable here.

A number of estimates have been formed, as to the quantity of air taken in at each inspiration. The medium quantity appears (according to modern Physiologists) to be 40 cubic inches, but this being dependant upon the capacity of the lungs, it is hardly to be supposed that the capacity of the lungs of any two individuals is alike.

The quantity expired, has been a subject of investigation; but a satisfactory conclusion is as difficult to establish as in the foregoing; and as for the quantity remaining in the lungs, although various estimates have been made, none of them can be regarded as absolutely certain.

Having examined the mechan-

-ical action of the respiratory apparatus, we have now something far more interesting to engage our attention in considering the wonderful effects it produces. We find by its operation, that manifest changes are produced both in the air and in the blood. These changes then, demand our present consideration. In the first place, the air is so altered in its properties, as to render it unfit for a second inspiration. On the other hand, the blood is purified, and without being so purified it could not perform those offices on which depends the immediate sustenance of life. It has been found that venous blood may circulate through the left cavities of the heart with impunity; but if it circulates in the coronary arteries, the action of the heart immediately ceases. By inspiration, atmospheric air is taken into the lungs. This is composed of two great constituents, oxygen and nitrogen, in the proportion of about 21 of the former to 79 of the latter in a hundred parts. Of these two constituents, oxygen has been found to be that which produces arterial-

ization of the blood; the other diluting and acting as a vehicle for the oxygen. By expiration, carbonic acid, the heaviest of all gases is given off. How is this change produced? And what has it to do with purifying the blood? To relate the innumerable hypotheses concerning these phenomena, would be a useless expenditure of time and space: but on this occasion, a brief consideration of the prevailing opinions may be sufficient.

As regards the formation of carbonic acid, Physiologists may be said to differ upon three essential points. 1st Some maintain that carbon exists in a separate state in the blood, and that during respiration, oxygen has to be absorbed from the air, before carbonic acid can be set free. 2 Others have come to the conclusion, that carbonic acid exists in a combined state; in the form of a carbonate; and that when the blood comes in contact with air, in the lungs, oxygen is absorbed, and by a chemical process, a new compound is formed with the alkali of the carbonate: by which

means this acid is set free. 3 Others again, maintain that carbonic acid exists in a free state, and is expeled from the blood during respiration.

The first of these theories, is chiefly supported by the older Physiologists, and flourished with more eclat, during the earlier stages of science. Since their time, the satisfactory views, obtained from experimental researches, have materially altered most of the opinions of the Moderns. A portion of those who support the existence of carbon in a seperate state in the blood, have conjectured that it is attracted by the oxygen of the air during respiration, and a union takes place externally. Carbon has not only been found to be one of the most fixed agents in nature, but an attracting agent of oxygen. This hypothesis then, appears unstable, and undeserving of further consideration. If now, we assume the other modification of this theory; oxygen must necessarily be taken in at each inspiration, to form carbonic acid. How then can

we reconcile this, to the statement of Spallanzanni and the positive experiments of Edwards? Spallanzani stated, that when certain animals were confined in gases containing no oxygen, the production of carbonic acid went on uninterrupted. The correctness of this statement was subsequently confirmed, by the direct and positive experiments of Edwards. In some of his experiments, the carbonic acid produced, was nearly equal to the bulk of the animal: proving that it was not formed from the residual gas in the lungs. This then may be urged as one of the strongest of the many objections to the first of the above theories.

We pass on now, to a brief consideration of the second theory. This appears to be a more complicated process than the former. From certain experiments performed by Gmelin and Tiedemann, those gentlemen came to the conclusion, that the blood contains carbonic acid in a combined, but not in a free state. The first of their experiments, was performed, by placing

blood carefully drawn (so as to exclude the air) under the receiver of an air pump: when the pump was partially exhausted, a few bubbles only, were seen to arise on the surface of the blood. These they think must have proceeded from other causes, than the disengagement of carbonic acid: and by this experiment, they are impressed with the belief, that the blood does not contain free carbonic acid. A second experiment is tried; and in every way similar to the former, only, that in this instance, they add acetic acid both to the venous and arterial blood; having a portion of each contained in seperate vessels. From the arterial blood "a number of small bubbles escaped, as soon as the strokes of the air pump brought the barometer to 20 inches." Drawing a conclusion from their subsequent theory, we may infer, that the rapid disengagement of gas in their last experiment, was occasioned by the acetic acid decomposing a carbonate, and setting carbonic acid free. We will now briefly state, the principal leading points of their theory. They say, that during respiration, oxygen is

absorbed, and a portion of it enters into combination with the the carbon and hydrogen of the blood, by which, carbonic acid and water are generated, and thrown off by expiration: while the remaining part forms other compounds in the blood. Amongst these compounds, are the acetic and lactic acids, which decompose the carbonated alkaline salts, and set free, carbonic acid. "The acetate of soda which is thus formed during the transit of the blood through the lungs, is deprived of its acetic acid by the several secretions, and again combines with carbonic acid, which during the circulation of the blood through the body is generated by the decomposition of its organic elements. Carbonate of soda is thus regenerated, and conveyed to the lungs."

Having now taken a limited view of this theory; the question may be asked: What objections can be urged against it? For the sake of brevity, a few only, of the most prominent of these, will be stated. As regards their (Gmelin and Tiedemann) first experiment; it is not

improbable that carbonic acid was disengaged from the blood: but not with that rapidity, which these gentlemen would seem to require. Probably, if they had used a test of carbonic acid, as Vogel did; they would have obtained a similar result. Passing on to their second experiment. Here by the addition of acetic acid; gas is rapidly disengaged from the arterial blood, when the barometer is brought to 20 inches: while in the venous blood the same phenomenon was not observed until the barometer was brought to 23½ inches. How can they explain the disengagement of gas from the arterial blood? Can the acetic acid decompose its own compound? According to their theory, we should expect no evolution of gas, from the arterial blood: But there; it is more easily disengaged from the arterial, than from the venous blood. Now this of itself, is sufficient to prove, that the gas which is made to escape, is not occasioned by the decomposition of a carbonate. If we reflect upon the quantity of carbon and oxygen, which by the addition of acetic acid, the blood

is made to contain; Is it more than fair to presume that carbonic acid will be generated? And if atmospheric pressure be removed, that it will escape? Lastly, as regards their theory. Although there are many objections to it, yet we have not time or space to immunerate them: but in conclusion will only observe, that the statement of Spallanzani, and facts deduced from the experiments of Edwards, which we have before quoted, in a former part of this essay, are equally fatal to the second of the above theories.

So much then, for the two first theories. We will now close this essay by a consideration of the third and last. Of the modern writers who support this; the views of Dr Stevens are by far the most satisfactory and explanitory. The majority of Physiologists, who support the existence of free carbonic acid in the blood, have not satisfactorily explained the manner in which it is removed, and the effects produced on the blood by its removal. But before proceeding further, we may

ask; What are the objections to this theory? Dr Mitchel on the penetrativeness of fluids,* after performing many valuable experiments upon this subject, concludes his essay, by saying, "the investigations of John Davy, and the careful repitition of his experiments, with others, fully as conclusive, leave no doubt of the entire absence of carbonic acid in the blood." John Davy, by placing blood under the receiver of an air pump, obtained a similar result, and deduced similar facts, to those of Gmelin and Tiedemann. This then, appears to be the great obstacle. Must bubbles necessarily arise on the surface of the blood, while placed in the exhausted receiver of an air pump, before we can be convinced of the escape of carbonic acid? "It is asserted by Boget, that fresh bullock's blood, when placed under the exhausted receiver of an air pump, disengaged so much carbonic acid gas, as to render lime water turbid." There is one experiment, we would suggest; and which if performed, might perhaps, through some light upon this subject. It is simply this — Place venous blood contained in a membrane or bladder, and carefully drawn (so as to exclude air) into a vessel of

* American Journal of Med. sciences

gas containing no oxygen, and ascertain after a certain length of time, whether the gas contains carbonic acid.

We will now see what are the views of those who support this theory. Dr. Stevens says, that although carbonic acid gas, is much heavier than atmospheric air; yet when a vessel has been filled with it, and confined by a membranous covering, the acid will ascend and escape with much greater facility, than the air penetrates. This fact has been more beautifully exemplified, by the experiments of Drs. Faust and Mitchel. The former of these gentlemen, having moderately filled a membrane with common air; placed it in carbonic acid gas. In the space of half an hour, by endosmose of the carbonic acid, the membrane was found to have fully dilated. The experiment being reversed, there was exosmose of carbonic acid. "This corresponds perfectly with the function of respiration, in which the blood being on one side of the membrane, and air on the other, the carbonic acid passes into the air." Dr. Stevens says, that this exosmose which takes place during respiration, is dependant

upon an attraction, which the oxygen of the air has for carbonic acid. In this he seems to err. For, Dr. Faust found when nitrogen was substituted for atmospheric air; the carbonic acid passed through the membrane with equal facility. Dr. Mitchel ascertained, that in 5½ minutes, carbonic acid transmitted as much in volume, through a membrane, as oxygen gas did in one hour and fifty three minutes. We may now have some idea, with what facility, exosmose of carbonic acid takes place, during the transit of the blood through the lungs.

This acid, according to Dr. Stevens, is formed by the union of carbon and oxygen in the extreme vessels, and being conveyed by the venous blood to the lungs; is there expelled, during respiration. He goes on further to explain, that after the blood has been depurated of its carbonic acid: it attracts a portion of atmospheric air. This attracting power of the blood, he attributes to its saline particles; and also says, that after the blood has lost its carbonic acid, it is acted upon by these saline particles, and made to assume a bright red colour. Thus then, may be considered a brief sketch of the last of the

above theories. Although deserving of much further consideration; yet believing from the extent of my past remarks, that I have already reached my limits; a final conclusion is here made, by hopeing that this weak attempt, may be found worthy the attention of my intellectual superiors.

A Dissertation

On Hepatitis. or

Inflammation of the Liver.

Presented to the Faculty of Physic

of the University of Maryland.

By Mackall B. Harris

of Calvert County. Maryland.

March 1836.

Acute Hepatitis
or
Inflammation of the Liver.

Hepatitis, or Inflammation of the liver, whether acute or chronic, is a disease of much greater frequency in tropical climes, than in the more temperate. It is also of a much higher and more violent grade in the torrid regions than elsewhere; often coming on with great violence, so suddenly as to give the patient but little premonition of its attack; & equally little hope of a recovery from its rapid & fatal ravages.

Although the influences of the tropical climes are most favorable to the engendering of this disease in its most violent forms;- Still it is a disease, of by no means unfrequent occurrence in the more temperate and variable climates. In all those districts of our own climate where malaria is evolved, (and these are by no means few) or intermittents present themselves, there will invariably be found hepatitis existing in some of its forms. But in these regions the chronic form of the disease is far more frequently met with, than is the acute. The chronic form of this disease is, by far the most frequent of the concomitants of intermittent fever. And as it is so frequently a concomitant or successor of intermittent fever;- So also, is it not unfrequently the precursor of a still worse complication of disease, Viz. dropsy.

In the tropical climates it prevails in many places endemically with great violence,- the individual being almost suddenly seized with pain in the right hypochondrium, tightness across the abdomen; difficult respiration, and experiences greatest ease when in the sitting posture somewhat inclined forward so as to relax the abdominal muscles. Such sudden, violent & alarming invasions, though by no means unfrequent in the torrid Zone, are of very rare occurrence in our own climate, where the disease comes on much more gradually, and also more insidiously.

The patient experiences chilly sensations, followed by more or less febrile disturbance,- tongue furred & covered with a thick coat of a white or yellow appearance & disagreable bitter taste; but occasionally it is smooth & red with numerous fissures;- The bowels are exceedingly irregular, being either very costive with stools of a clay colour, or at first dark & becoming whitish as the malady progresses, or they are affected from the beginning with diarrhoea, & the disease puts on many of the appearances common to dysentery. Frequently when great congestion of the liver & mucous membrane is present, a dark coloured matter is thrown up by vomiting, which has the appearance of grumous blood. The urine is scanty and of a bilious colour;- the skin hot & dry;- difficult breathing;- anxious countenance, with nausea, vomiting & thirst.

The pulse is generally full, active & hard, though in some instances it is small, quick and tense; this last

severe, and the fever higher, when the inflammation affects the peritoneal covering of the liver, than when it is confined to the substance of that organ.

The results of external examinations to ascertain the condition of the liver, when supposed to be diseased is, often most unsatisfactory. The contraction of the abdominal muscles;- distension of the colon or stomach; disease of the Kidneys;- a collection of matter in the thorax pushing down the diaphragm, are all sources of deception. The most favourable posture for the patient, when we wish to make an examination is,- to be placed in bed with his head & shoulders well elevated, & the muscles of the abdomen relaxed by drawing up the Knees. To ascertain if any flatulent distensions exist;- percussion may be used. The examination should now be made, by making firm pressure immediately under the margin of the Ribs, in the region of the liver, which is to be forced down by making the patient take a full inspiration. If the liver be not greatly enlarged our results are not likely to be very conclusive. Diseases of the pyloric portion of the stomach, & the neighbouring part of the colon, may also deceive us, & be placed to the account of the liver.

Post-Mortem Appearances.- The following appearances are most frequently found on dispection in cases of hepatitis of the acute form. Adhesions

between the liver & the surrounding parts:- fulness or enlargement;- less elastic,- more easily broken between the fingers,- the edges being thicker & more round than natural. The quantity of blood in the vessels of the organ will influence its colour, which will in general be brightest in the inflamed parts, destroying the distinction between the red & whitish-yellow parts of the liver. In hot climates the termination in abscess is very common; and the same termination is not unfrequent in our own climate, though it is thought that tubercular degeneration in a state of softening is often mistaken for abscess.

Abscess of the liver is not necessarily a fatal termination of inflammation of that organ, as by the adhesive & suppurative process the matter finds an exit from the organ & also from the body. First,- by adhesions taking place between the peritoneal surfaces of the liver & abdominal parietes, the matter thus pointing externally & escaping by an opening made either by the ulcerative process, or by an instrument.

Secondly,- it has made its way by the same process through the diaphragm to the lungs & been expectorated. Thirdly,- It may find its way in like manner into some part of the intestinal tube, & be passed off through that canal. In a majority of cases the seat of abscess is the exterior & superior surface of the liver, which causes the communication between the

diaphragm & lungs to be so frequent when they do not point outward. It has even been thought that the matter might be discharged into the intestines through the biliary ducts without any preternatural adhesions whatever. Lastly — Abscess may burst into the cavity of the chest, or into that of the abdomen, both of which last terminations are almost necessarily fatal. Some have asserted, that when the matter of an hepatic abscess was discharged by the lungs, the case was incurable; — and indeed the same assertion has been made respecting hepatic abscess in general, but I believe there is good evidence in both cases of the contrary.

Hepatic inflammation is said to terminate sometimes, though rarely, in gangrene; and sometimes in softening of the structure of the liver. Abercrombie, found the parenchyma of the liver soft, broken down, and of a dark colour. Dr Saunders was of opinion that the capillaries of the hepatic artery are exclusively implicated in the acute variety of this disease; and ~~that~~ the extreme branches of the vena portae in the chronic form. Winslow ascribes both varieties to the vena portae exclusively. Which of these opinions is correct, or whether either of them is strictly so, I shall not here enquire.

As hepatitis, without particular attention may be confounded with, or mistaken for other diseases of

The diagnostic symptoms which have been described with other collateral circumstances which may attend particular & individual cases, will be sufficient it is presumed, to guide the practitioner in making a correct & satisfactory diagnosis in by far the greater portion of the cases which may present themselves to his notice for discrimination and treatment.-

Causes.- By Saunders & others the frequent occurrence of hepatitis in the torrid regions, is ascribed to a peculiar miasm which they suppose to prevail in such climates.

That malarious emanations accompanied with high solar heat, powerfully predispose to hepatic derangement, by the morbid excitation or erethism which they produce in this organ, cannot be doubted. The liver being in this morbid condition,- slight exciting causes,- as cool & damp night air,- errors in diet, stimulating drinks &c. develop this disease. Dr Mackintosh believes that indolence, with full living on high seasoned food, and a neglected state of the bowels, are the principal causes of hepatitis in all climates. In relation to the etiology of this disease, Dr Johnson observes, that "between the biliary & perspiratory secretions, there exists one of the strongest sympathies in the human body:- and whatever increases or decreases the action of the cutaneous exhalents, increases or decreases also the bil-

-iary section. Knowing therefore as we do, how uniformly high atmospheric temperature excites excessive perspiration, we cannot be at a loss to account for the frequency of hepatitis in hot climates. The excessive & continued perspiration occasions a loss of tone in the extreme vessels of the surface, and this loss of tone in the capillaries of the skin, is accompanied by a corresponding loss of tone in the secretory vessels of the liver. The most striking illustration of the existence of this cutaneo-hepatic sympathy is afforded by the fact, that, in chronic inflammation of the liver, the skin is always dry & harsh, and general diaphoresis is with difficulty excited."-

Dr. Eberle, thinks that malaria has a very great share in the production of hepatic disease, from the fact that persons at sea, though between the tropics, are by no means so often affected by bilious & hepatic diseases as those on land;- the most obvious reason for this difference, seems to be the absence of the sources of malaria in the first case,- and their presence in the latter. Other exciting causes less general in their nature than those already mentioned, not unfrequently give rise to this malady. Violent & fatiguing exercise,- blows received in the region of the liver,- vicissitudes of temperature,- a draught of cold water while the body is in a state of free perspiration;- irritation from biliary concre-

tions in the gall-ducts;- violent rage,- terror,- mental despondency &c, have all been set down as exciting causes of this disease.

Treatment;- The treatment of acute hepatitis, like that of all other inflammatory diseases of high vascular excitement,- to be successful, must be decidedly anti-phlogistic & depletory;- and we must look upon blood-letting as a primary & indispensable means of cure.

Two strong reasons may be urged in favour of early and decided bleeding in violent cases of this disease. First, to lessen by the quickest possible means, the momentum of the circulation, and relieving the engorged & congested state of the liver. And secondly to subdue the general phlogistic condition of the system, whereby we favour greatly the beneficial effects of mercurials,- on the prompt influence of which, we are taught to place much reliance.

After such depletion as the symptoms of the case may seem to require, active purgation should be resorted to, with a view of clearing the alimentary canal of its contents, and of reducing still further the inflammatory condition of the liver. For this purpose a liberal dose of calomel seems best adapted, as by its effects on the upper part of the intestinal canal, & by continuous sympathy along the biliary ducts to the liver; the organs will be beneficially influenced & relieved of its

torpid & congested state. The mercurial should be followed in a few hours by a dose of oleum ricini, or other purgative in order to insure free catharsis. This is a good general beginning in the treatment of acute hepatitis; but is only a beginning.- Seldom indeed will one abstraction of blood however copious, be all that is required in the way of depletion, but we shall be obliged to repeat it several times, in order to quiet the general vascular excitement.

After repeated venesections, should the pulse still retain too much activity, and local symptoms of inflammatory action continue considerable, local abstractions of blood by cups or leeches, from the region of the liver, may be resorted to with decided advantage, and should not be neglected.

Throughout the entire course of this disease, particular attention should be paid to the state of the bowels; which must be kept in a soluble state by gentle purgatives;- and of these, as I have before said, calomel is among the best. In violent cases it should be given in small & repeated doses, till its constitutional effects are observed in the system. After the general arterial activity, & inflammatory condition of the system have been reduced by proper antiphlogistic measures,- such as I have mentioned- blisters over the right hypochondriac region, often become important auxiliaries in the treatment of this disease.-

by the revulsive effects of blisters applied over the liver, by the irritation which they produce on the surface, is frequently very conspicuous. In violent cases, as the early induction of ptyalism is a matter of the greatest importance; the practice of giving opium or pulvis antimonialis in conjunction with calomel, has been recommended by many good practitioners. By such a combination gentle diaphoresis is establish-ed, and the constitutional effects of the mercury earlier induced. This last effect in bad cases may be further assisted by dressing the blistered surfaces with the ung. hydrarg., or by one or two drachms of the ung. rubbed in on the arms & thighs several times during the day. The use of the tepid bath also, as a remedial agent, should not be neglected in bad cases of this disease.

If however, notwithstanding our endeavours to the contrary, suppuration & the formation of an abscess in the liver take place,- the occurrence of which will be manifested by the presence of rigors,- a sense of sinking and anxiety at the praecordia,- night sweats and occasionally formication of the skin,- a fulness and feeling of weight about the margin of the ribs, and a dull pain in the liver,- the further exhibition of calomel, & other means directed for the promotion of ptyalism now become improper, & should be desisted from. The soluble condition of the bowels however, must not be neglected.

be undertaken, we are told, with a fair prospect of success. Should the matter be discharged into the cavity of the thorax, and we have an opportunity, paracentesis thoracis, is directed to be performed, but the chances of recovery after this condition of things are few indeed.

After the abscess has burst & the matter been discharged, & the patient left in a very exhausted & debilitated state, Dr. Scott recommends very highly the nitro-muriatic acid, both as an internal & external remedy. Of a mixture of equal parts of these acids, he recommends that from half a drachm to a drachm, diluted with a proper quantity of water should be taken daily, which should be sucked through a quill or tube of glass, to prevent its injurious effects on the teeth. The feet & legs also should be immersed every evening in a warm bath, composed of half an ounce of this acid mixture to a gallon of water, - increasing it to six or eight drachms to the gallon of water.

Should the discharge be by the lungs & the night-sweats copious, - the exhaustion great, and the digestive powers fail; - the tonic bitters with nitric acid and some of the narcotics ought to be had recourse to, in order to sustain the sinking energies of the constitution.

Chronic Hepatitis.

Having treated of acute hepatitis or inflammation of the liver, - I shall now proceed to say something relating more particularly to the chronic form of the disease, which is by far the worse form of the two, as they usually appear in our own climate, being much more insidious in its attack, generally having made extensive progress before we are aware of its existence, - and being also much more difficult & tedious to subdue.

When chronic inflammation of the liver is not the result of an acute attack, - it usually manifests itself by symptoms of functional disorder of the digestive & biliary organs. Dyspeptic symptoms are often very conspicuous, - the appetite is irregular with impaired powers of digestion, - acidity - flatulence nausea & vomiting - colic pains, with a sense of fulness in the region of the stomach. Frequently an uneasy sensation is experienced in the right hypochondriac region, with a dragging pain in the right shoulder. Generally there is no distinct pain felt in the region of the liver, except when firm pressure is made on this part, and then there is an uneasy tightness felt in the region of the liver, where there is frequently a manifest tumefaction.

There is discoverable a sickly & contracted aspect of the countenance,- the whites of the eyes, with the skin of the neck, face & breast become tinged with a yellowish hue. The bowels are much disordered costiveness usually alternating with diarrhoea. The evacuations are scanty & of an unhealthy nature, being clay, or dark-coloured, slimy,- offensive, green watery &c. The urine is often highly coloured with bilious matter, & sometimes produces a scalding sensation at the neck of the bladder on being voided. The tongue is generally white & dryish, with a depraved and bitter taste.

Dr. Johnson mentions as a constant & strikingly characteristic symptom of this disease," a dry, harsh and constricted state of the skin, it being almost impossible to produce a general diaphoresis or softness of the skin. A short dry cough often attends;- and the patient is usually most easy when he lies on the affected side. He emaciates as the disease advances, & evening exacerbations of febrile excitement with burning in the palms of the hands & soles of the feet; with restlessness at night are observed.

Should suppuration take place, hectic fever with rapid emaciation ensue.

The pain is referable to the stomach & bowels, or to the thorax, according as the concave or convex portions of the liver is the seat of the inflammation,

to the stomach & bowels, when the former, and to the thorax when the latter portion is particularly affected.

Although chronic hepatitis is often the result of the acute form of the disease, (especially when this latter, has not been treated sufficiently energetically in its commencement & early stages, or when the inflammatory condition has not been entirely subdued) - it is still more frequently caused by the slow operation of the same causes which produce the acute form.

That this chronic state of disease is the result of miasmatic influence on the human system, is abundantly proved by the frequency of its occurrence in districts exposed to these noxious & deleterious emanations. The sallow & jaundiced hue, of many individuals residing in such districts, likewise bespeak the great tendency of such emanations to derange the biliary apparatus. The liver constantly exposed to the operations of these deranging influences, requires but slight exciting causes, to develop the more prominent symptoms of its diseased condition.

The post-mortem appearances of the liver after chronic inflammation are various. It exhibits an ash or clay colour, and generally differs somewhat from its natural shape. It is often more firm & solid in its consistence than natural, though of less specific gravity. The liver in some cases of rare occurrence, has been found so disorganised, as

to present the appearance of a honey comb.
Suppuration is not an unfrequent termination of chronic hepatic inflammation, especially in hot climates. The whole substance of the organ is sometimes so completely occupied by tubercles as entirely to disorganise its structure, and interrupt all its functions. Indurations, diminutions in size, and various other morbid appearances indicative of inflammatory & diseased action in the organ, present themselves on examination after this disease.

Treatment.- In the treatment of chronic inflammation of the liver, there is seldom an indication for general blood-letting, though in most cases advantage will be derived from local abstractions of blood by leeches. This measure will generally be proper & beneficial in those cases that are consequent on acute hepatic inflammation,- and more especially so, in the disease as it usually appears in the torrid regions. Emolient fomentations applied warm to the right hypochondriac region, will generally be serviceable, particularly if much pain exists.

A regular, but gentle administration of mercurials must now be established, and continued, until its constitutional effects are perceptible. This impression on the system should be uniformly kept up for a considerable time,- studiously avoiding however, profuse salivation, is seldom beneficial, & generally detrimental

A moderate, uniform & prolonged mercurial influence will generally procure all the advantage that is to be obtained by this remedy. A few grains of the pil. hydrarg. combined with a grain of the extract of conium or hyoscyamus may be given twice or thrice daily until the gums are tender, - and then continued at longer intervals so as to keep up this impression without producing ptyalism.

The following is probably a better prescription than the one I have just mentioned

℞. Massae hydrarg. ʒi.
Extract Conii ʒʃ.
Pulv. Ipecac. ʒj. M.

Divide this into thirty pills, of which two may be taken morning noon & night. Laxatives must be given in conjunction with the mercurial to keep up a regular action on the bowels. As the tone of the stomach is apt to become impaired, and the digestive powers to fail, some of the tonic bitters should be used in the form of infusion several times daily, united with ten or twelve drops of nitric acid. Or we may use the following formula so highly recommended by Dr Johnson as a tonic & aperient in this particular disease,

℞. Decoc. taraxac. ℥iv.
Carb. Sodae ʒi.
Extract taraxac. ʒij.
Tinc. gentian ʒij. M

Take two or three tablespoonfulls twice in the day.

In hot climates, with respect to the use of mercury in chronic hepatitis, the same general remarks which were made when speaking of its use in the acute form of the disease, - may be repeated here, - Viz, - that the disease being more violent & rapid in its course, - mercurials may, and ought to be used with more freedom & pushed to greater extent, than would be necessary or proper in the temperate climates.

The nitro-muriatic acid bath which was mentioned as an important auxiliary in the treatment of the latter stages of acute hepatitis; becomes a still more important agent in the management of the chronic form. It is no small commendation of this remedy, to say, that not only in all cases where mercurial preparations are indicated, but likewise in those, - when, from peculiarities of constitution & other circumstances they are contra-indicated; the nitro-muriatic acid bath, - made as before discribed, will be found advantagious. If this bath produce no pricking sensation in the parts, after they have been immersed for half an hour, more of the acid mixture should be added, till the bath has this effect. The feet & legs should be bathed in this mixture every night: and the same bath will be good for several days. This acid mixture has even been found serviceable, in cases torpid & deranged liver, when applied to the part in the form of poultice. Internally, the nitrous acid may be taken; in the quantity of two or three drachms

diluted in a large portion of some mucilaginous fluid; in the course of twenty four hours. This acid when used for some time will generally bring on some degree of ptyalism without the use of any mercurial preparation, but it may be advantagiously used in conjunction with mercury.

In this, as in many other chronic affections, counter-irritation by blisters, tartar-emetic ointment, & various other counter-irritants, applied to the region of the liver have a very beneficial influence. And in inveterate cases, setons become important & valuable agents in their treatment.

With regard to diet; I need scarcely say any thing, as that of the lightest & most digestible nature will at once strike the mind of every practitioner, and of almost every patient, as most proper & even necessary. Sudden vicissitudes & low damp temperatures should be carefully avoided by patients of this kind. And when the weather is warm & dry, & the patient able, exercise by gestation will be beneficial. —

An Essay
On
Cholera Infantum.

Submitted
to the
Inspection
of the
Medical Faculty,
of the
University of Maryland.
For the degree of
Doctor of Medicine.

By
George W. Reed
Of Virginia.

1836.

Cholera Infantum.

The desease about to be considered, most generally attacks children between the age of three months and two years; those who are either above or below these ages, are less subject to it. It makes its appearance in Pennsylvania, Maryland, Virginia, Kentucky, and Ohio, sometime in June, and continues until near October. It is most rife in July and August. In the more southern countries, as the Carolinas, Louisiana, Mississippi, and Alabama, it appears as early as April or May. It most generally confines itself to towns and cities, but occasionally prevails in low humid situations in the country. The children of the lower class of society, who live in confined and illventilated houses, suffer the most; but those children who have the advantages of large cool houses, of

comfortable clothing, of cleanliness, and a wholesome and well regulated diet, are by no means entirely exempted from its attacks. The fatality of this desease, is so great that it is estimated that nearly one fourth of the deaths amongst children, are produced by it.

Professor Potter, contends that Cholera Infantum is an indigenous desease of the United States, and that, it has sprung up within the last century. The fact of its not having been noticed before by medical writers, and its not having attracted the attention of the Physicians of any part of Europe, is a sufficient proof of its indigenous nature, and modern origin.

That it is a different desease from that which attends on dentition, worms, &c. is at once evident to those who are conversant with it. To those

who are not, it will be only necessary to state, that diseases arising from worms, dentition, &c. prevail at all seasons of the year and in all places: but this disease prevails only at particular seasons, in particular places in the United States, and is confined to certain definate limits. These limits are more extensive than those of Yellow fever, yet more circumscribed than those of bilious fever. Nor is the disease so closely tied down by climate and season as the former, yet more so than the latter. The Cholera Infantum like bilious and yellow fever, is confined to particular districts, while the neighbouring districts, in the same country and climate, equally exposed at the same time of the year, to the same degree of heat and atmospherical vicissitudes, should not only be free from the least

suspicion of generating them, but even when transplanted, of fostering or propagating them, proves incontestibly, that whatsoever may be the cause of either of them, such cause must be of a local origin, otherwise its effects could not be local. What that cause is we now proceed to enquire. That it is not heat alone is evident from the fact, that heat exerts its influence equally on those places wherein Cholera infantum or any of the above deseases do not prevail, as in those in which they do. The same may be said of moisture and atmospheric vicissitudes. Our whole country is subject to the influence of heat, moisture and atmospherical vicissitudes; but only a few spots, of limited extent, to Cholera infantum. That it is not the effluvia of animal and vegetable matter alone which produces this desease, is evident

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from the fact, that these effluviæ are often present, ~~present~~, not only in the country but in towns, and no deseases produced. Effluviæ are nothing more than parts of decomposed bodies themselves. Decomposition is nothing more than an analysis, which nature makes of those substances that have lost their vitality. Effluviæ are the product of part of that analysis. They are as innocious as the bodies of which they formed a part. Facts prove them to be so. Nature still further analyses these effluviæ: and separates them into the original atoms of which they are composed. The atoms only obey their affinities and enter into various combinations. Throughout the whole process the general plan of nature under ordinary or common circumstances, is to separate and to combine the atoms of bodies, as to render them harmless to man. Where this

not her general plan, living animals would soon be entirely destroyed by the deleterious combinations of those atoms, which are the result of dead matter analysed or decomposed. This though the general order of nature, under ordinary circumstances, is not so under all circumstances. In those places in which Cholera infantum, bilious and yellow fever prevail, the atoms of the effluviae arising from the decomposition of dead matter are placed under very different circumstances, from the atoms of those effluviae of more extended regions, or even of those unhealthy places in different seasons. In sickly seasons and places the atmosphere not only contains a greater amount of the effluvia of dead matter, but is also warm, moist, and more or less stagnant. Close, damp, and illventilated houses prevent the effluviae thrown off by putri-

fying substances from being dissipated in the atmosphere, and the effluviae thus retained in the atmosphere within narrow limits, are there subjected to still further analysis, The atoms, the product of this further analysis, being thus confined in a close atmosphere, whose moisture has robbed it of its electricity, do not, obey the general rule of entering into harmless combination, but a combination of atoms takes place, different from those combenations which would have occured under ordinary circumstances. This, a process entirely synthetical — The product of it is Malaria or Miasmata. And the desease I have under consideration most generally, is like bilious and yellow fever the legitimate offspring, of this deleterious substance. The air being charged with this enemy of human life, is breathed into the lungs twenty or more times in a minute. It there comes in

contact with the membrane of the lungs, which is interwoven with nerves from the pulmonary pleyes, this membrane is nearly eaqual in eptent to the whole surface of the body. The names of the nerves distribuited to this eptensive membrane, are the pneumo—gastric and pneumo—ganglionic. The pneumo-gastric, has been proven by the epperiments of Horner, Bell, &c. to govern the motive powers of the lungs. The lungs have however another office to preform differing from that of drawing in and epelling the air. This is the power of changing by some (to me) unknown proces, the venous into arterial blood. Now I think the office of the pneumo-ganglionic, has a similar duty to preform in the lungs, as the ~~of the~~ ganglionic nerves that are distributed to the stomach, have in that organ: and the ep—

periments of Bichat on living animals, would show that they controlled the absorption and secretion, but not the sensible organic contractility of that organ. If this opinion be correct we see at once that the pneumo-ganglionic has a very important duty to perform, that of absorbing the oxygen from the atmosphere and changing the venous into arterial blood. Facts show us that the blood of children who breath the polluted atmosphere of Cholera infantum, or the blood of those persons that inhale the pernicious miasmata of bilious or yellow fevers, is changed from its healthy appearance. It is much darker when they are in apparent health, and continues so when attacked by the desease, and only becomes florid or sizy by some local inflammation. D. Rush has noticed this; the fact proves that the respiration

of miasmatic atmosphere interrupts or prevents the transformation of venous into arterial blood. And this very interruption of arterialization, shows that the miasmata produces a morbid state in the extremities of the pneumo-ganglionic nerves. But the morbid effects of the miasmata, stops not here. D. Cartwright has made numerous post-mortem examinations in miasmatic deseases, and invariably found the ganglionic more or less deseased, together with there primitive plexuses. The fine tissue which envelops the ganglion particularly the similunar, was always found highly inflamed; also the membranes investing the posterior pulmonary plexus, and one more of the plexuses given off by the similunar ganglion. Some one or more of the organs which are supplied with nerves from the deseased

ganglions, were always found to be more or less inflamed and sometimes gangrenous in places. Those organs which are the most profusely supplied with the ganglial nerves, the brain excepted, generally suffered most. Thus the liver, the stomach, and the duodenum were the organs mostly diseased in recent deaths – sometimes one suffered more sometimes less. The brain would seem to be consecutively affected. The morbid impression produced on the extremities of the ganglionic nerves, by the miasmatic atmosphere is conveyed to the ganglions, the centre of organic life, and there produces disease, as discovered by morbid anatomy. The ganglions being diseased, all those parts which are supplied with nerves from the ganglions, as the liver, the stomach, the bowels, &c. become

deseased in consequence of the deseased state of the ganglions and their plexuses, from which they derive their nerves. The common appearance of a post-mortem examination developed in deseases produced by miasmata. Yet notwithstanding the post-mortem appearances are invariably the same in those deseases, the phenomena presented during the progress of the deseases are sufficient to show they are distinct deseases. As I have now pointed out the most general cause of Cholera infantum, and explained the manner in which miasmata produced this desease; I will readily be understood when I say, that, this desease may be caused in some instances, by deleterious substances, taken into the stomach. VIZ. Improper food, &c. When the ganglionic nerves distributed to that organ, may be morbidly

impressed, and thus will desease be communicated to the ganglionic system. I will now proceed ~~next proceed~~ to state the different stages of this desease, together with their treatment much as has been noticed by others, and altogether confirmed by my own experiance. We are sometimes called in the first stage; if so our work is simple; we find the patient is labouring under visceral congestion. The symptoms. Diarrhœa of bilious character is most prominent. As long as the discharges retain this character there will be no very evident signs of indisposition. The tongue, however, will be found white or yellow, the thirst will be increased, and the appetite somewhat impaired. The skin, also, will lose in some measure its wonted whiteness and transparency, together with its pliant moist feel. In this stage of the desease nothing is more

serviceable than a gentle emetic in the morning, followed by some light purgative combined with a diaphoretic at night. The emetic cleanses the stomach and produces a secretion of bile, removes the plethora of the portal system, and the congestion of one or more of those viscera from which the abdominal vena porta arises; it likewise determines the fluid to the surface, produces a soft skin, equalizes the circulation, and tends to prevent the subsequent formation of visceral congestions. The purgative and diaphoretic; the night after the emetic will carry on the work commenced by the latter. And if there should remain a tendency to visceral congestions, as manifested by the looseness of the bowels, dry skin, wakefulness, &c. a few drops of the vinum ipecac. through the day, with a small dose of Lupuline made into

tea at night, continued for a few days, will determine to the skin, and, in many cases, render the further use of medicine unnecessary. If the case should appear obstinate the warm bath, will be found to be a valuable addition. This remedy will sometimes of itself remove congestion, by determination to the surface; If the desease is not mastered by this time, It will be necessary to continue the treatment guarding against excessive purging. The child should be kept warmly wrapt up in flannel, thin batches of carded cotton may be placed over the abdomen, and retained by a thin, broad bandage, drawn moderately tight. In every instance we should pay attention to the gums, and if the teeth growing beniath them, render them hard and painful they should be cut. If the physician is not sent for or improper remedies used, or The

proper articles are used improperly, that patho-
logical state of the system will quickly come
on, which indeed is the most usual way in which
the desease commences, VIZ. Congestion, with atapic
or broken reaction. — Symptoms. A violent vom-
iting and purging of viciated fluids, sometimes
mixed with bile, accompanied with more or less
fever, of the broken or atapic kind. The vomiting
in some cases, is absent; in others the vomiting
comes on without, in the first instance, any
purging. In some instances, a child in apparently
vigorous health is, at once seized with vomiting,
purging, or both, without having any previous
indisposition. Nothing generally is vomited at first
but the milk, in a very acrid state; afterwards,
mucous slime. When the desease is ushered in, as
it sometimes is, by purging, the discharges from

the bowels are very offensive and vitiated. They consist at first of a light coloured fluid, succeeded, in many cases, by stools of green or yellow colour always mixed with a thin slime or mucus. Soon the quantity of green or yellow fluids diminish, and the slimy or mucous discharges increase. These last are very thin and copious; They consist often of a white pulpy substance, but no bile, at least scarcely enough to stain the diaper. In those cases where the vomiting and purging come on about the same time, both the one and the other are attended with similar vitiated evacuations, or when either comes on separately. There is often some degree of coldness which attends this stage, especially at its commencement. The extremities are generally below their usual temperature; the

head, breast, and abdomen, have their temperature greatly increased; the cheeks are flushed and the eyes often red, while the hands and feet are of a pale bluish colour. The pulse at the wrist is small and weak; that of the carotids and temporal arteries full and strong. The determination of the blood to the extremities is much diminished, while that to the head is very much increased. The fluids are distributed in an inverse ratio. In violent attacks, spasms of the abdominal muscles and general convulsions are not unfrequent. The great determination of blood to the head often produces delirium, but it is very different from that which sometimes ensue in the after stages of the disease. The child in this stage is more torpid and listless, more manageable, less sensitive of impressions, and more inclined to stupor or sleep, than

than in delerium which may subsequently ensue. This stage does not continue more than twenty four hours before it gives way to some other pathological state. There is always much less danger to be apprehended from a general fever, in all acute diseases, than a partial or ataxic reaction. The former appears to be an effort of the system, to remove internal congestions; with some degree of success, the latter with but little. In this stage of the disease, a mild emetic will do little or no good. To a child in its second summer, I give about fifteen drops of wine of Lobelia Inflata, in ten of the essence of sassafras, to be repeated every five minutes until it operates freely; I then direct three drops to be given every half hour, until the ataxic fever is removed, or bilious secretions take place. I find this produces the most desirable effects. The vomiting

will cease, if not the lupuline tea combined with a few drops of the essence of peppermint should be given freely. This plan will remove the heat of the head and breast, breaks up the local determinations of the blood, restores the loss of balance in the circulation, arouses the torpid organs into action, and produces secretion of the proper kind. When the fluid ejected is not bilious, it shows that the remedy has not produced the desired effect. In this case the warm bath, and sinapisms may be used with advantage; also spirituous fomentations to the abdomen: brandy toddy, in mint or cinnamon tea, may be given at the same time. These or any other means, adapted to the exigency of the case, will quiet the diseased commotions, and prepare the system to be properly acted on by the emetic.

This remedy is not to be thrown aside entirely, if the first dose does not appear to agree with the system, and symptoms a little unpleasant arise, if the ataxic fever, continues. For it will subsequently agree better, sometimes it will be proper to give a small dose of salts of Tartar with it, persevere and it will produce the desired effects. It was a rule with D.r M.c Peeters to administer tart. emet. as long as there was a strong pulsation in the carotid arteries, and the pulse at the wrist proportionally weak, this was a good rule, but I prefere the Lobelia, as I think it has a more decided tendency to equalize, the circulation. As an auxiliary remedy ten or twelve leeches may be applied to the temples. After the ataxic reaction has been subdued, the disease is either cured, or a general arterial action is developed. This constitutes the third

pathological stage of the desease. Viz. Congestion, with general fever. This stage is far less dangerous than the one just described. Symptoms. – A free open reaction. The blood is distributed, in a direct ratio to every part of the system. The vomiting subsides entirely; the evacuations from the bowels less frequent. This stage continues not exceeding three or four days. The fever exacerbates every evening. After each exacerbation there is a manifest tendency to return to healthful excitement. The skin feels less hot and dry; the pulse becomes less quick, and the evacuations from the bowels often assume a bilious character; the thirst abates, and the tongue and mucous membrane becomes moist. The system now appears to pause between health on one hand and inflammation on the other. If an equilibrium of action in the skin,

kidneys, liver, and mucous Membranes, be kept up for a time, the congestion will ~~be~~ be removed, and health will be restored; but, if one or more of the great organs of secretion still continues to sick, or if those organs which have a tendency to secrete, as the skin, kidneys, &c. be prevented from doing so by an excessive secretion from the liver, or by a constant draining from the bowels, beyond that which may be sufficient to remove the congestion of the secreting organ, the equilibrium of action so far from being restored, will be still further broken, and inflammation will in either case ensue. When the present stage has been preceded by atapic reaction, in which emetics, have been used as recommended in the treatment of that stage, all that will be necessary will be, to give some purgative medicine combined

with some diaphoretic, and use the tepid bath. (This may be done by placing the child, in well regulated vapour or in tepid water.) As soon as two or three stools, which will be of a bilious character, have taken place the heat will abate, and the skin will become moist. These symptoms manifest a tendency to a restoration of due balance of action, and should never be lost sight of. Purgatives should be laid aside, and diaphoretics freely used, to produce a greater determination on the part of the skin to secretion. Following up this treatment the disease will be speadily removed, and the child in a few days restored to health.

But if general fever invades, the system, without having been preceded by that stage, the plan I have found most beneficial, is to use the tepid bath frequently and to give in small doses the wine

of Ipecac. Lobilia or Antimony, combined with some diaphoretic the tincture or infusion of the virginia snake root, or any other every half hour, untill the paroxysm has passed then increase the dose to produce emesis. Having used emetics in this manner in the decline of the fever, it rarely failed to produce a secretion of the liver, to lessen the determination to the head, and shorten the course of the exacerbation. But excessive discharges by emesis, however are equally injurious, as by cathasis. The bilious discharges should consequently be suspended, as soon as the fever has abated. For this purpose the leaves of the peach tree, may be bruised, and applied to the stomach and breast, the infusion of the leaves may be drank. The diaphoretic should be continued. To remove the visceral congestions by producing bilious secretions, either by emetics or carthasis;

to prevent subsequent congestion from forming, by keeping up a gentle and equable secretory action in the skin, kidneys, mucous membranes, and liver; prevent any exhausting discharges from taking place, which cannot happen to one organ but at the expense of others, are the chief things which are to be had in view in the treatment of the stage of the disease now under consideration. The next to be presented is the fourth pathological stage. General fever with inflammation.—Symptoms. Abdomen tense and sore to the touch, flatulency of the stomach and the bowels, wakefulness, restlessness and screaming, accompanied with a hot dry skin, intense thirst, dry tongue, mucous or slimy discharges from the bowels, attended with gripping or pain. Stools in

some cases; are bloody and very thin; in others they watery and of a dark green colour, or consist of a frothy slime. Much noise from wind sometimes attend their discharge. After much pressing a small discharge only may have taken place, as in dysentery, and then suddenly a considerable quantity will be evacuated. Some children appear to be very much griped, and have (judging from their cries, stretching &c.) very acute pains during dejection; others only moan, and do not appear griped or pained. When the fever runs high, the little sufferer is often delirious; it often becomes frantic with pain, and will tear itself, and try to bite its nurse. Its eyes look wild, and its whole countenance is expressive of deep anguish. It can not sleep nor be kept still, but tosses from side to side, untill it has nearly ex-

persisted its 4th month. This stage of the disease does not continue long. So long as inflammation is attended with a general fever, there is much less danger than when attended with ataxic fever. The physician, in this stage of the disease, has to moderate the excessive arterial reaction, to rouse up the torpid organs, as the skin, liver, and kidneys and restrain the exhausting discharges from the mucous surfaces of the alimentary canal. Nature has placed a variety of means in his hands to answer the ends, some of these have been mentioned, while treating on the other stages of this disease, emetics I would not use while the fever is very high, and purgatives will often fail in producing bilious discharges. While the arterial excitement is very high sponging with cold water and

vinegar, is very serviceable in abating the heat of the surface. The application of cold water which is here admissable, might in the preceding stage, have produced mischief. Nor should it be continued when we find the heat of the skin diminishing, in this or any other stage. An increased renal secretion has almost as good an effect in abating febrile excitement, as an increased hepatic secretion. In this stage of the disease the white-walnut is much the best purgative I know. D. Henderson has used, for many years, the extract of white-walnut, with great success, in the cholera of infants. Calomel does very little good, and even harm, if given during much febrile excitement, especially if the tongue be dry. D. Cartwright has known it in such stages of the system,

to be determined to the mouth, without in the smallest degree, arresting the progress of disease. The extract on the contrary, possesses, as has been well observed by D. Mr. Peters, together with its purgative, a soothing or narcotic property, well adapted to this state of the system. The original employer of this medicine, in the present disease, generally gave it to children by rubbing it with castor oil and the yolk of an egg. It may also be conveniently given in syrup of roses. It may very advantageously be given combined with other purgatives, diaphoretics, astringents, or opiates.

When the inflammation, is judiciously restrained and guarded, it runs its course without producing any injury. When the excitement of an inflamed organ has been lessened by general remedies, the local irritation may

be still further removed or translated by cat-
aplasms. When properly managed, the disease,
even in the present stage, may be prevented
from running into the succeeding. But it often
happens that profuse evacuations produced by
nature or art, exhausts the patient's strength so
much, that the system has not the energies
left when with to produce a general reaction.
In this event the general reacting stage never
comes on at all, or if it does it continues but
a short time, and runs into that stage of the
disease which consists of a local inflammation,
acute, sub-acute or chronic, accompanied with
broken or ataxic reaction. This is the fifth stage.
Inflammation with ataxic fever. Symptoms.
All the above symptoms continue, except the
general reaction and general diffusion of heat.

nature is now too much exhausted by the ex-
cessive discharges from the bowels, and by local
inflammation, to produce any longer a general
reaction. The extremities become cold, or at least
below their natural temperature; the tongue
becomes more dry and coated, or dry, smooth,
and polished. As this stage advances, the eyes
loose their fierceness and lustre, and become
more sunken and hollow; are more closed
during sleep, but show the slimy, dull-
looking cornea beneath. There is often a cough
attending on this stage of the disease. The dis-
charges from the bowels are generally more
frequent than in the preceding stages; they
frequently amount fifteen or twenty in
twenty four hours: like the preceding stages,
are various in their appearance. In this stage,

they vary from white mucus, water, or slime, to a black pitchy substance; the latter indicates great danger. This substance differs much from the black bilious discharges which are always favourable. A substance like rotten eggs is sometimes discharged. If the stools are mixed with blood, it indicates danger. In proportion to the draining from the bowels, the child becomes emaciated; the skin also becomes more dry, and looks shrivled; the insides of the thighs are remarkably shrunk and wasted, and the skin hangs on the inside of the limb very loosely. The chimefactive process is almost entirely suspended, and the most bland and easily digestable substances afford the little sufferer little or no nurishment, but turns sour or putrid, and increases the diarrhoea. Even

water itself often excites purging. In this stage of the
desease the child suffers much, and can not be com-
forted, by the fondest and most endearing carses
of its mother. The least jar or irregular motion
gives pain; noise and light, once so pleasant to
it, can no longer be endured. It will scream on
nearly being touched by the physician; its pulse
can not be felt but by forcibly holding its hand,
nor its tongue examined but at the expense of
great exertions to resist; such exertions often
prove the exciting cause of spasm or general
convulsions. It often throws its hands to its head,
as if the principal pain was there. The gums
are swollen, black, livid or inflammed; the
lips are ragged, and often have a rim of black
sordes at their edges. The duration of this stage
depends pretty much on the kind of inflammation

which attends it, whether acute, sub-acute, or chronic. If the acute however does not quickly prove fatal, in which case the child generally dies convulsed, it passes into an inflammation of the sub-acute or chronic kind, which attends the protracted cases. After weeks of suffering under an ataxic fever, with inflammation sub-acute or chronic, accompanied with great abdominal soreness, tension, pain, tenesmus, and a continual discharge of vitiated stools of various colours and kinds. When this stage of the disease is once fairly established it will run its course, which is exceedingly painful and tedious. This stage often continues for several weeks, which is a sufficient proof of the innate powers of the infants system to resist structural derangement. Although the progress of the inflammation can not be

at once arrested, yet medical agents are not wholly useless. A variety of causes tending to aggravate the existing inflammation, and to give to it a fatal direction, may be removed. A part of the excitement of the inflamed organ can be made to flow more equally; the strength can be supported, and the loss of strength produced by the depraved and exhausting discharges, can, in some measure, be made to run its course, often with safety to the patient, and in less time, than if left to nature entirely. Instead of giving medicines to assist nature in her supposed concoction of morbific matter, we have now to watch the pathological changes which are taking place in the system, to guard against the occurence of those morbid events that lead to a fixed inflammation, and should that happen, to withdraw, as far

as possible all those sources of irritation, that may tend to produce structural derangement. D.r Carturight in speaking of this stage of the disease, says that the most skilful physician has to watch it patiently, and to watch it attentively, if he wishes to succeed in curing it and adapt his remedies according to circumstances attending each case, as no particular plan of treatment can suit all cases, none can at once arrest its progress. He then recommends a plan of treatment which he learned of D.r Henderson, who, he states, treated this disease with unparalleled success. He speak much in favour of the extract of White-walnut, sugar of lead, and opium, or the belladonna. A little of the extract of White-walnut, with about the fourth of a grain of sugar of lead, and a very minute portion of opium, given

every three or four hours. will in most cases, check the watery and debilitating discharges, and substitute in their stead, less viticated secretions, which are neither as frequent nor so copious, as the former discharges, and which furthermore do not debilitate the patient. This combination is better and as D- Cartwright says far preferable to Calomel and opium, which, however, is a good combination, if the tongue be not dry, red or parched. Should the opium increase the restlessness and pain, the belladonna will be found to produce quietness and sleep. If there be great determination to the head, with a strong pulsation in the carotids arteries, instead of the above Medicines tartar emetic in doses of ~~a fourth~~ of a grain, for a child one year old, with about one or two drops of laudanum,

may be given every two hours. This medicine abates the ataxic fever, produces no vomiting, fills the cutaneous veins with blood, and checks, in a considerable degree, the watery and exhausting discharges. It will also prepare the system to be acted on by the above mentioned medicines, which should not be given when the reaction, although ataxic is strong. When the pulsation in the carotids is quick and weak, the abdomen tense, sore, and swollen, I know no remedy more certain, safe or efficacious, in restoring the exhausting discharges, and producing a better state of the bowels, than the purified spirits of turpentine. The croton oil is also exceedingly useful in similar states of the system. Either of these medicines will be found to check, in most cases, the watery purging, to cleanse the primae viae of their foul contents, to diminish

the pain, soreness, and tension of the abdomen, and to strengthen the patient. The usal dose of croton oil for a child a year old is about the third of a drop in syrup of roses. When we have succeed in restoring the exhausting discharge by the above means, we should lay them aside, at least untill the symptoms should again be troublesome, for it is evident that the inflammation continues too long to admit of these medicins to be constantly used, without inseparable mischief to the system, and it is vain to think of cutting short the inflammation at once, we should now use peruvian bark or colombo root freely. When the patient can not be induced to take a sufficient quantity, injections composed of the bark should be freely given. The bark may be combined with aromatics, as cloves, ginger, cinnamon, &c. if it puke; and astringents, if it

purge. The bark for the first few days evidently increases the febrile heat, adds to the distress of the patient and apparently aggrevates the violence of the symptoms. Dr. Henderson, the author of this practice, was always pleased to see the bark bring out the fever, because he then could manage the disease as he wished. There is nothing more certain, than that after a general excitement has been produced by the use of the bark, purgatives will always have a better effect in producing bilious secretions, than if the bark had not been used. The best general Rule is to give bark through the day, and purgatives at night. The purgative, by producing bilious secretion, will soon remove the fever brought out by the bark, and the patient, after those bilious stools, will enjoy an undisturbed and refreshing sleep through the night. Instead

of the bark which is sometimes refused by children, the sulphate of quinine answers a good purpose. The sulphate of quinine should be made into a soft mass with wine or brandy, and taken on the handle of a teaspoon, previously dipped into syrup, which is to be introduced into the childs mouth, far back, near the root of the tongue; a little drink of some kind given to wash it down. A child in its second summer should take from one fourth to one half a grain every two or three hours. This is not too much when the medicine is given during the atapic fever which attends this stage of the disease. A smaller quantity would be sufficient, were it given in the apyrexial period of a disease to prevent a return of fever. The practice best suited to conduct to a favourable result, the

inflammation attending, on this stage of the disease, is that of restraining the vitiated and debilitating discharges from the bowels by some of the above mentioned remedies; & by injections of starch gruel, and a little laudanum, if the rectum be much irritated; to administer the bark or sulphate of quinine freely, so as to diffuse the excitement through the system; to moderate that excitement by purgatives; to prevent the purgatives from operating more than what would be compatible with a due equilibrium in the circulating system; to throw excitement, as much as possible, on the skin; and moderate that of the internal organs. This practice will in due time conduct the inflammation to a happy termination. If not after weeks of suffering under an ataxic or broken fever, with inflammation sub-acute or chronic, accompanied with great

abdominal soreness, tension, pain, tenesmus, and continual discharges of vitiated stools of various colours and kinds, the disease passes into the sixth pathological state. VIz. Inflammation unattended with febrile heat, but with a cold, dry, or damp state of the skin. — Symptoms. An apparent remission of the most distressing symptoms, as pain, griping, &c. The skin feels cool, dry, and harsh; it is often, however, bedewed with a cold damp, viscid moisture, which sticks to the fingers like honey. Fever, in its etymological sense, is no longer present. The emaciation is nearly as great as it can be. The face has a wasen appearance, and the skin, on the other parts of the body, is shrivelled and loose. The eyes are sunk, languid, and glossy, and gives to the emaciated wasen visage a ghastly appearance. The child now only moans, and sighs,

and has a disturbed, comatose kind of sleep. Aphthæ appears in the mouth, and the extremities sometimes bloat or swell. The inflammation thus continues to run its course, untill the bones, in some instances, nearly wear through the skin; and unless the lost equilibrium is restored, the desease passes into the next or last stage. As the strength of the patient is here much exhausted, and the alvine discharges frequent, copious, and watery, the super-sulphas aluminæ with nut meg, armenian bole, and a little opium, is the best preparation to restrain the diarrhœa; and, whenever it is necessary to purge on the bowels, a little calcined magnesia should be given, if there be much acidity, and charcoal, if there be much pain and tenesmus of the bowels; a cold infusion of rhubarb, if the stomach and bowels have lost their tone, and permit the food

to pass through them unchanged; and lastly the spirits of terpentine or croton oil, if the abdomen be much swelled and very painful. The strength should be supported by the bark or quinine; given in smaller doses than in the preceding stage. Astringents and stimulating julips are more serviceable in this, than the other stages of the disease. The opium which is necessary to resort to, in this stage, in combination with super- sulphas aluminae, kino, logwood &c., or any other remedy, should always be given in exceeding ly minute doses, in consequence, not of the encephalic disturbance, but in consequence, of the peculiar state of the system, in this stage, rendering it unable to bear so much of this medicine as in any of the stages that have been mentioned: and a minute portion has a better effect in restraining the diarrhoea than a larger quantity.

Horse mint tea, cinnamon, dewberry root tea, combined with astringents, with or without a little opium will be found to moderate the vitiated discharges. Both rhenbarb and magnesia are valuable remedies in regulating the state of the bowels, the Asclepias tuberosa, is recommended very highly by D. Burgon, of Penesylvania, in the doses of six or eight grains, twice a day, this is certainly a valuable remedy, as it is both a gentle purgative and diaphoretic. The skin should be bathed in hot brandy, rendered more stimulating by the addition of a few pods of red pepper; or rubbed over with equal parts of oil of amber and aqua ammonia. Mucilaginous drinks are serviceable, not only in this, but in every stage of the disease. Vegetable jellies, arrow root, sago, tapioca, wine whey, &c. should be given

in small quantities, and repeated frequently. These may be used in every stage of the disease, but more freely in this. If the child be not weaned, the mothers milk, if she be healthy, is the best diet. The aphtha which appears in the mouth in this, and sometimes some of the preceding stages, should be treated by their appropriated local applications, as gargles made of an infusion of red roses and borax, &c. &c.. By attention to the above, some of the most hopeless cases, have been conducted to a favourable termination. Exercise in a carriage, in the open air, but particularly a removal to the country, is of the greatest service in every stage of the disease, and sometimes absolutely indispensible for the recovery of the child from this stage. Should the inflammation of the present stage not

be attentively watched, and guarded at every point; or should any measures be taken to cut it short at once, the desease will soon pass into the seventh pathological state. Serous effusions within the brain, or structural derangement of some of the abdominal viscera. Symptoms. — The breathing becomes hurried and laborious, the pulse quick, weak, and irregular, and death closes the scene; which is the only remedy for the little sufferer.

Finis

Read

An

Essay on

Variola

For the degree of
Doctor of Medicine
in the
University of Maryland
By

J. Seddon Mason
of
Stafford County
Virginia

1835

Pursuant with a custom, coeval with the honours of the Medical profession; I lay before you an Essay on Variola, for the degree of Doctor of Medicine in the University of Maryland: Recently hoping it may be received; as the evil that waits man lives after him, whilst the good is too oft interred with his bones.

This is a disease of modern times. Neither the Grecian nor Roman writers having made any reference to it: About the 9th Century, Rhazes a Arabian Physician, was the first, to furnish us with a full and accurate account of small pox; it appears from him it was brought from Ethiopia into Arabia, from thence it spread to Spain, the Levant and Sicily. As far as History informs us, Variola is a disease of Africa. The Crusades introduced it into Europe about the 12 Century, the intercourse being extended, it spread throughout the World: where it is painful to reflect on the hideous devastation it committed; and indeed its ravages were not less melancholy in our own Hemisphere.

It was first carried by Columbus to South America, wherein all probability, no disease with which Almighty Providence, has thought proper to afflict mankind, has consigned so many to an untimely grave. Small Pox is generally divided into distinct and confluent - but this division is incorrect, as it may be distinct in one part and confluent in another - and as the disease is attended by fever either inflammatory or typhoid I deem it best to treat of it according to these views. This disease is ushered in like hypresia generally, with a chillness, pains in the head back and extremities, shortly there is nausea and vomiting, pain in the epigastrium, sore throat etc, etc. After the development of fever the skin becomes dry, the tongue furred, with red points, bowels torpid and urine scanty. The chest is generally affected with pain and in two or three days confusion of mind or delirium takes place. - Shortly before the eruption, the tongue becomes florid and there is a

singularly copious perspiration, emitting an offen-
sive odour. These symptoms are only the precur-
sors of the eruption, which begins about the
4th day from the commencement of the disease,
appearing first on the face and wrists, then on
the chest and abdomen and lastly on the extrem-
ities, completing this process in about 24 hours.
The fever begins to abate from the commence-
ment of the eruption, which consists, at first,
of small red points, becoming elevated about
the middle of the second day with inflamed
base; these pustules contain a semitransparent
lymph - Central depressions appear on the
beginning of the 3rd day; at this period, each
pustule is surrounded by an inflamed cir-
cular areola, which sometimes spreads into
an adjoining one. By the 7th or 8th day the pus-
tules assume a spheroidal shape, enlarge and
become opake, until the stage of maturation
which is about the 12th day. At this period, se-
condary fever arises from irritation; simultane-

ously there is an increased soreness of the throat, difficultly of deglutition, and tongue at a tendu increased; in short all the symptoms become more violent — a dark spot generally appears in the centre, spreading into a scab-dropping fall off and leaving permanent pits or scars.

The disease, assuming the Typhoid type, commences like typhus fever with slight chillness, heavy sighs, pain in the head, and back; with precordial oppression, small, weak pulse, the skin of the body dry and hot; whilst the extremities are cold, and covered with a cadaverous moisture; at this period, the Stomach has but little sensibility, even on pressure, and the tongue may be aptly compared to a piece of raw beef. This stage is succeeded by collapse, the face pale and the arterial action feeble, the eruption, making its appearance a day or two earlier, than in the inflammatory stage; and occasionally disappearing and appearing again; but the patient receiv-

ing no relief from its reappearance. If the eruption be retained, the face and eyelids become swollen; To these symptoms are added sore throat, difficulty of deglutition, obstruction of the larynx, hemorrhage, bloody urine, diarrhoea and mortal dread, death. There are modifications of this disease, occasioned by some unknown cause, some peculiarities of constitution and an endemic epidemic state of the atmosphere; the most dissimilar cases are produced by the same virus. Whatever may have been the vain speculations with regard to the primary origin of Small Pox, no one now doubts, that Variola arises from a specific contagion; it is thought that the sphere of contagion in the open air is circumscribed within a distance of 10 or 12 feet, Professor Potter thinks it cannot be communicated at a greater distance than 2 or 3 feet. I believe it may be communicated as far as the odour, emanating from the patient can be smelt.

Doubt seems to exist, whether or not this disease can be communicated by fomites. I believe it cannot, in which opinion, I am happy to accord, in the main with my highly distinguished Professor of Hygiene-Therapeutics etc etc Doctor Robley Dunglison. During the last winter, the small pox, broke out in the Village in which I live - where I had full opportunities of establishing the verity of the opinion advanced. Even the nurse, that attended the patient - slept with her babe, without changing her dress - without any bad effect whatever resulting. I had children - who had not been vaccinated - to fondle me immediately after leaving the room of the patient, and no bad consequences arose. The contagious nature of this disease escaped from the time of the Arabians down to Sydenham, all writers believed it was produced like Intermittents from malaria or a peculiar state of the atmosphere. The period of dormancy is from

12 to 14 days, but little varied by climate or season. No rank or age escape, the aged Matron and the youthful virgin are alike liable to the disease. Professor Chapman, says he has known, even the foetus in utero to be affected when the Mother has escaped. I must acknowledge, it would require more credulity, than I profess, to give credence to such a statement. It is said about one in fifty enjoys a total immunity to this disease, but this estimate must be too large. Variola has broken out and spread like an epidemic, no one being able to trace its origin; such was the case in Philadelphia in 1823. When the defence set up by Vaccination and Variolation, proved as dusts in the scales. Variola can hardly be mistaken for any other disease, when fully and well developed; yet it has been confounded with Varicella, but this disease is ushered in with but little uneasiness; on the 2d. day large watery vesicles come out and

do not change colour, they dry away about the 5th day, and the eruption makes its appearance in crops of large watery bladders or vesicles, which are conical and filled with a pellucid lymph. The pustules of small pox are flat, indented and filled with a purulent matter. This malady is more fatal in advanced age and particularly so in pregnancy. Dr Peter says, he has never known but one instance, in which a pregnant female has recovered. Varriola is most favourable, when the pustules are separate, indented and filled with pus or yellow matter, the reverse is unfavourable especially when the pustules are filled with blood; a retrocession of the eruption with the whites of the eyes inflamed, and sloughing of the fauces is almost universally fatal. The 11th and 13th days are said to be most dangerous but it is a critical period throughout the eruptive stage. In this disease we toil and wherefore should we toil;—for let our—

exertions, be ever so assiduous and our treatment ever so judiciously directed, one out of five dies and in epidemic Variola 3 out of 5 die.

In proportion to the stage and development of the disease, so various are the phaenomena on dissection, (the patient dying early) the mucous membranes presents us with simple phlogosis, with bronchial and laryngeal inflammation — death taking place later, extensive lesions appear in the primæ viæ, lungs &c

The appearances in the typhoid stage are also often varied; there are ecchymosed blotches, sanguineous congestion of the brain and lungs. The eruption is confined to pails, generally — where the air has full access, no pustules having been discovered in the brain, or peritoneum, yet the research of modern Anatomists, purports the existence of pustules in the mucous membranes.

With regard to the pathology of this disease there has been much hypothetical

reasoning, but, like exanthemata generally, the first impulse is given to the lungs and brain, from thence it is radiated to the skin. This seems to be a wise provision of nature, to relieve a vital organ, the malady is thrown to one, better able to support the burden of pestilence.

This like many other deseases, has had its panacea, but soon it sunk into that insignificance, from which it ought never to have arisen; but melancholy to relate, our best remedies, however judiciously directed, have too often been weighed in the balance and found wanting. This is justly styled an incurable disorder, dependant on a specific contagion: it will run its course in spite of our best exertions; nature works her own salvation. Yet it is in our power to mitigate the sufferings of humanity, and notwithstanding, we have it not in our power to say to pestilence

"thus far shalt thou go and no farther" we can calm
the tumult, and render the foaming billow of death
less violent.

When the disease is moderate it is best to trust
pretty much to nature, but if much inflam-
mation or congestion supervene, we are bound to
interfere. The treatment should commence with
an emetic; this class of medicine seems to pos-
ess a singular efficacy, not only in this but in
all eruptive fevers, by heaving the skin for the
eruption; but be it remembered, they are best
adapted to the early stage of the disease, and
always contraindicated, when there is gastric
phlogosis. Calomel was supposed, by the old
writers, to posess a specific influence over this
disease, but of late it has fallen into disuse,
and according to Dr Potter unjustly discarded;
small doses of calomel, according to his opin-
ion, are of great utility. I look upon it as a
good auxiliary, particularly when the liver
is implicated - but our chief reliance must

be placed in saline purgatives which do not irritate the bowels a thing never to be lost sight of. the Ol: Ricini in doses of a Teaspoonful will be found to accomplish much, when the bowels require to be moved. Mild diaphoretics, (as they are called) may be used in the intervals, The Acet: Ammonia, or a weak solution of the Tart: Antimony or the Sul: Spir: Nitr: or these combined. If there be local inflammation, high arterial action, hot skin, pain in the head &c. blood letting should be practiced and repeated if demanded - and to relieve the internal organs - cups and leeches - should never be neglected, for if Ipecacuanha ever was entitled to respect in any disease, it must undoubtedly find its advocates here. In this, as in all other diseases, when inflammation, the strictest antiphlogistic plan must be pursued. The patient should be kept in a cool and well ventilated apartment; cool drinks should be allowed and the body sponged

with cold water; and nothing but a cracker and barley water allowed in the way of diet. The treatment in the Typhoid stage of this disease, though differing from the inflammatory, does not vary materially, from that pursued in Typhus fever generally; commencing with evacuants, to which, Calomel seems admirably fitted, for removing visceral turgidity, but these evacuants should not be carried too far; Here too, topical bleeding is very necessary, and should never be neglected phlebotomy is sometimes necessary, the propriety of which must rest with the discretion and good sense of the practitioner. The disease continueing, we must resort to blisters and sinapisms applied to the extremities and over the stomach. Cordial stimulants must also be resorted to, amongst which wine whey is thought to be one of our best, but this class of medicines must be employed with much care and it is only when the lamp of life

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is flickering, that we should add a little oil. At this crisis, the brain is apt to suffer and whenever the cerebral functions are involved with rigidity of the muscular system; much is to be dreaded from softning of the brain, which is sure to terminate in the patients death. I believe, too, that the spinal marrow suffers more or less in all protracted fevers, from inflammation, giving rise to the most disastrous consequences, owing to the immense number of nerves it furnishes. In cases, involving the Spinal cord, cupping down the whole spine should be practiced, and, from analogy I would recommend nitra down the spine, believing the happiest effects would result; at the same time cold applications should be applied to the head, whilst the extremities are kept warm. Much has been done to prevent, the permanent, pits or scars; but to little purpose, for variola is too apt to tell the road it has

frauded in spite of our best efforts, Puncturing with a Lancet, and the exclusion of light are the only means entitled to the least confidence, and the puncturing must be resorted to, on the first or second day, otherwise it will prove negatory.

Thus, Gentlemen, I dismiss the subject and submit this Essay to the Verdict of that impartial tribunal, before which there is no appeal.

An
Inaugural Dissertation
on Tracheitis

Addressed to the Provost,
Trustees and medical Faculty of
the University of Maryland,

for the degree
of Doctor of Medicine
by William Smith Hungerford
of Calvert County
Maryland

March 1836 -

Respectfully dedicated to
Dr. R. S. Stewart of Baltimore,
whose professional and intellectual
acquirements, are as well known,
as his virtues are admired, and
respected, by his sincere friend
and pupil

W. L. Hungerford

History } Tracheitis

It appears that this affection was unknown to the ancients. as we do not find it mentioned in their writings. it must therefore be a disease of modern origin. and the first account given of its symptoms and pathology was in seventeen hundread and forty nine. by Martin Ghisi, the next publication in relation to tracheitis was by Dr Home of Edenburg, who gave a more detailed history of it, in the year seventeen Hundread and sixty five. he was followed by Michalis of Argenti in seventeen Hundread and seventy eight. under the appellation of angina polyposa sive membranacea. Cullen spoke of it in seventeen hundread and eighty nine and devided it into three varieties, acute, cronic and spasmodic. but we are indebted to Dr Cheyne for a better account than had previously been given. in his pathology of the larynx and Trachea. published at Edenburg in ~~seventeen~~ eighteen Hundread and nine. these gentlemen have been succeded by all of the late authors. on practice of physic, Gregory, Eberly. Mackentosh and a number of others of whom it is unnecessary

to speak, croup is known to the profession by a variety of names. such as Cynanche Trachealis, Cynanche Stridula, Suffocatio Stridula, Angina perniciosa, Asthma infantum, Morbus Strangulat-orius, Catarrhus Suffocatius, Barbadensis, Angina polyposa sive membranacea, also Angina Stridula, this affection was supposed by Dr Cullen to belong exclusively to children, and he refered the phenomina to particular changes which take place in the mucous membrane of the trachea between the period of childhood and puberty, but at the present day of scientific improvement there remains no doubt on the subject, that grown persons may suffer attacks of croup, though it must certainly be admitted, that children are more predisposed, probably depending in some instances on the delicacy of their constitutions, and in others on hereditary predisposition, which they loose as they increase in strength and vigour,

Symptoms

Croup is more prevalent with children between the age of two and eight years, and commences

with the usual signs of pulmonary catarrh
dry cough with slight expectoration, but in
as short time it becomes more urgent,
generally its approach is attended with
fever and chilliness, the tone of the voice
is changed and becomes more harsh
with an increased difficulty in breathing,
as the case advances respiration is more
oppressed. Countenance sometimes flushed
attenuated with paleness, eyes having a
heavy expression. † pulse hard and frequent
accompanied with thirst and restlessness,
expectoration though small in quantity,
frequently mixed with blood. surface of the
body dry and hot. though the extremities are
sometimes cold, the inspiration attended
with a hissing sound. when the lining
membrane of the trachea is only affected
the cough is sonorous. and Dr Potter remarked
in his lecture on this subject, that when
the muscles become involved the sound is
very similar to the barking of a small
dog. the inflamation frequently extends

† Gregory. 1 vol. 354 page

down to the lungs and upwards to the muscles of the larynx and glottis. from the commencement of an attack a viscid secretion is thrown out from the inflamed mucous membrane, which in some instances has been known to produce suffocation. and the patient dies in the attempt to dislodge the obstruction, or becomes so completely exosted that it requires the greatest caution to sustain him, on the part of the attendants. in some cases slight coma takes place previous to dissolution, when death takes place from suffocation Dr Gregory remarks in his practice of medicine, that the little patient manifests in the expression of his countenance and actions the utmost degree of anguish and suffering. the head is thrown backwards and mouth kept open, the eyes are half closed or cast about with the most imploring expression for relief, the voice is extinct, the lips livid; the face pale and covered with large drops of sweat. sensibility rapidly diminishes, slight coma

tissues, the extremities become cold and clammy and finely breathing stops and closes the agonising scene. Sometimes the more violent symptoms show themselves in the short space of 18 or 20 hours, in others not for three or four days, these symptoms may be modified by efficient treatment in the forming stage. This disease terminates in three different ways. 1st by the formation of a false membrane, in some instances entirely encircling the trachea, in others only partially, in some cases it is soft and can be easily removed by proper treatment, in others being of a more firm and organised texture and firmly adhering to the lining membrane, 2nd in a purulent secretion. 3rd and in a still less degree of action in a viscid, frothy limpid fluid, the first is the most violent grade, the second not so dangerous and the last, the most mild and can be more successfully combatted by our remedies.

Causes.

They are not very numerous, in some

in some families there exists as mentioned previously, an hereditary predisposition as other diseases, such as catarrh, scrofula tisis pulmonalis and gout. and to account for it, appears an almost insurmountable difficulty - without it depends on a certain formation of the parts. or a peculiar habit of the constitution, other causes are, exposure to cold, going from a warm to a cold room in a state of perspiration, living in cold damp situations, inattention to drop, sudden changes in the temperature, thus we find it more prevalent in autumn and spring, than in winter and summer, as the temperature is more various, in the two first than latter seasons, the causes which I have enumerated may be either predisposing or exciting according whether the patient has received the germs of the disease from his progenitors or not. some have supposed that there is a variety of croup which is contagious, Dr Cullen says, that he admits that the most violent form is of this nature,

Dr Cullen appeared to incline to the same doctrine: ~~I suppose~~ though we are obliged to respect the opinions of men who have done so much for medicine, still we cannot receive that as facts, which is not supported by experience, and if cases were wanting to refute this Idea of Dr Cullens, we might refer to numbers of instances on record, where persons have remained together, while one had the disease without communicating it to the rest. and it would be a waste of time to dwell on the subject, as it is now admitted that tracheatis has no more pretension to be placed in that class than pleuretis, laryngetis. common catarrh or others of the same variety, it has also been observed that this disease may exist as an epidemic in particular localities, this is very probable, as a particular state of the atmosphere may predispose to the same affection in different persons - but this is no

more a proof of contagion; than it is a proof that intermittants are; because the miasmatic condition of the situations, where it generally prevails should give rise to them.

Different varieties

This disease has been devided by authors into three varieties, acute, chronic, and sporadic, the symptoms which I have given above designate the first, the second variety or cronic is more prevalent than is generally supposed and may be complicated with other catarrhal affections, though all of the symptoms are present which denote the acute, but in a less violent degree. nevertheless the symptoms are not less distinctly marked, and should their require the utmost attention, for if neglected it may terminate fatally, the third variety or sporadic cramp, which some authors acknowledge. I believe to be entirely without foundation, in relation to this

Dr Cullen remarks in his 327 paragraph, that the peculiar and troublesome circumstance which attends this disease appears to consist in a spasm of the muscles of the glottis, which by inducing suffocation prevents the common consequence of inflamation, and also in his 329. paragraph mentions, when the disease ends fatally it is by suffocations arising, as we have said depending on a spasm affecting the glottis, but sometimes probably depending upon a quantity of matter filling up the bronchia; to this last remark I would ask, what produces the quantity of matter which fills the bronchia if it is not the consequence of inflamation; also nearly all of the German and French writers are of the same opinion that it is a spasmodic disease, and it is surprising that men of their research and experiance, and who must have witnessed the fatality, accompaning such pathological

treatment, should still persist in the use of medicines of the antispasmodic class, for it is evident that a disease which presents on post Mortem examination a truely inflamitory character, call for a treatment purely antiphlogistic in the first instance. Professor Morse considers that the disease depends on a disturbance of the neumo-gastric nerve, if such be the case, or if it depended on nervous action as the proximate cause of the symptoms which present themselves, how could those gentlemen account for the exudation which takes place, or the false membrane which is sometimes formed, and which can only be the consequence of inflammation; If it should be said that the affection of the nerves is the cause of inflamation, I would answer, that the treatment which is recommended by the supporters of the spasmodic doctrine, would not be a proof of the correctness of their theory.

but this was not their view of the subject, they supposed that death was produced by spasm closing the glottis as Dr Cullen remarked, and not the consequence of inflamation, but Athere are other causes to which we may attribute the symptoms; in the commencement of an attack there is a determination of blood to the mucous membrane of the trachea, the vessels are enlarged and the tube of course diminished in size, which gives rise to the difficulty in the patients breathing. in the second stage when signs of suffocation are present, we can account for it, by the false membrane filling the trachea. but again. the advocates of spasm say, that the exacerbations which take place, in the course of the disease, can only be accounted for according to their theory, but the supposition is entirely erroneous, as it can be accounted for in a more correct manner. and to controvert the opinion, it is only neces-

T. Mackintosh

-sary to investigate the nature of all inflamitory actions; and according to a known rule of the animal economy, all diseases in their most active stages are generally accompanied with remissions in their course. this is a law, which is positive, and cannot be contradicted, and to attempt to elucidate it, would require a knowledge of the intentions of nature, and therefore is impervious to human ingenuity; and though it must be acknowledged that the supporters of this theory were men of fine immaginations and acute observation, it is to be regretted that they had not extended their discernment to this important fact, but if this is not sufficient to prove the fallacy of the spasmodic doctrine, I would refer its supporters to the anatomical relations of the parts concerned and they will discover that the physiological actions of the muscles are such, that it is a direct proof against their opinion,

Dr. Potters notes to Gregory—

as the muscles so antagonise each other that it is impossible for them to close the air passage.[6]

[6] Pathology

The pathology of this disease is a true inflamation of the mucous membrane of the trachea, extending by contagious sympathy, in some instances, to the muscles of the surrounding parts, and in others downwards to the minute bronchial ramifications, constituting a complication of this disease with bronchitis. the inflamation also in some cases extends upwards to the larynx, producing laryngetis.

Prognosis

This is a disease of a dangerous character and was once supposed to be almost incurable. but at the present day, the improvements in medical science has taught us, that when the disease is taken in time, it can not only be mitigated in violence but is entirely

[6] ~~Bradford~~ Potters. Lectures

subservient to a proper course of treatment,
and the only danger to be apprehended
appears to consist chiefly in the extent
of inflamation downwards towards
the smaller bronchial ramifications

2 Treatment

With respect to the treatment of croup,
it is unnecessary to say much, as it is an
inflammatory disease and can only be
subdued by medicines of the antiphlogistic
class, when the symptoms first appear
our main dependence should be placed
in the lancet. permitting the blood to
flow until syncope is produced, as this
phenomina is the best criterion by which
we can be guided, to know that it has
produced an effect on the system, after
which an emetic of Tart of antim. or
Ipicacuana should be administered to
produce emesis, which will not only tend
to relieve the trachea of any exudation
which may be present, but by equalizing

the circulation, may break in upon the morbid concatination going on in the diseased part. the emetico cathartic, consisting of a combination of. proto. clor. Hyd^g and Tart. stutin. has been given and according to the opinion of some with advantage. Calomel alone has also been administered, carried to an extent to produce salivation in a few hours, and has been successful in some instances when all other remidies have failed. and indeed some physicians prefer it to venisection. while others are afraid to carry it to a sufficient extent, though there are numerous cases on record where it has been used with success without being attended with. unpleasant effects. and the principles objection which can be urged against it, is the difficulty of salivating children in the first and second year of life, but they are seldom subject to the disease at so young a period. Dr. Potter of the University of Maryland, has recommended a remidy for

this disease and ~~extolls~~ its powers above all others, when you find that your patient has resisted the remedies mentioned. he says give perchloride Hydrargyri in one gr to an ounce of water and take a teaspoonful every half hour or hour until it vomits. he says he has known this remedy to save the patient, when his friends had given him up as a hopeless case; the warm bath has been recommended, keeping the patient in, until sickness is produced, and indeed all the medicines of the diaphoretic class have been recommended after the inflammatory symptoms have somewhat subsided, such as small doses of antimony, the Emplatorium perfoliatum, seneca and a number of others of the same kind, with respect to blistering to the neck which has been recommended ~~I think~~ by some in the onset of the disease, I conceive to be an injurious practice, as by increasing the flow of blood to the vicinity of the part affected, may tend

to increase the inflammation already present, and thus add to the danger of the patient, but there is a certain point in all inflammatory diseases which if taken advantage of we will always find them of the utmost utility, and that is where the inflammation is somewhat subdued by proper depletory measures.

tracheotomy has been recommended by some, but there a few cases on record where it has proved successful, and if it is ever resorted to. is should be after all of our remidies have failed and the patient in a state of suffocation. in such a case it would be admissible but in no other,

with respect to antispasmodic medicines which were once recommended and were supposed to be the only remidies that could effect a cure were discarded even by Dr. Cullen. who remarked. that though he supposed

that spasm affecting the glottis was often fatal in this disease: he did not find this class of remedies to be of any use: thus we find that the closet speculations of an imaginative theorist, who supposes that the human body can be made to act according to their own will, to substantiate a brilliant but false doctrine are compelled to submit to the dictates of those men who have investigated its nature, and who have grounded their observations on the success of their practice.

Finis

An

Inaugural Dissertation

On

Hepatitis

Addressed to the Provost Trustees.

and

Medical Faculty.

of the

University of Maryland.

for the degree of Doctor of Medicine

by

John H. Patterson

of Maryland.

March 1836.

we have read upon the subject, and from our much respected Professor of Practice. Before we proceed further, let us remark, that although the terms acute and chronic, may be found in this essay, we do not use them as the names of two distinct separate diseases, but merely to express different stages, of one and the same disease. If acute Hepatitis never resulted in Scirrus, or induration, or any of those other conditions of the liver found in chronic, but always in an abcess, suppuration, or gangrene of the organ, by which the patient would either be destroyed, or from which he would entirely recover, without having any alteration of the structure of his liver, or if that kind of hepatitis termed chronic, from its commencement to its termination, always progressed gradually, never ending suddenly in suppuration, then might the terms acute and chronic be used in the sense we

we have objected to, but it is evident to all that this is so only in a few instances. How often do we observe the most violent form of this disease termed acute, running into and becoming the more mild or chronic, and the latter running into and becoming the former, frequently thus presenting a modification of hepatites, exibiting as much the characteristics of acute as chronic, this variety could not be called by either of the above names singly, for it is as much one as the other, and might with propriety be termed Acutechronic.

Again we are unwilling to use these terms in a sense so limited, as in some part of our essay we might pass over boundaries so narrow; thus creating a confusion which to us would not be agreable. For these reasons and for others which want of time will not permit us to mention, we have written at the head of our thesis

simply Hepatitis. It is a received opinion that this disease is peculiar to countries of warm climates, rather than to those the temperature of the atmosphere of which is about at, or below the medium degree. We would not declare this belief to be altogether incorrect but it is somewhat so, that alone we know will not produce hepatitis it is but a remote cause of the disease. Of the east and west Indies the latter has the more moderate climate of the two yet in the latter Hepatitis is much more prevalent than in the former, At Bangalore a British station the the mometre ranges about seventy two, during the year, here this disease exists to a great extent and is very fatal, In the United States Chronic Hepatitis is very common so that we believe the difference of this disease in warm and cold climates is not so much in quantity as in quality. Many have

written lengthy essays to prove Hepatitis indemiak in certain places owing to some peculiarity of the soil and Nations now all they have said only goes to prove one simple fact namely, that sudden transitions of temperature and not any very high or very low ranges of it, will cause this as well as many other diseases to which man is liable.

In Bangalore, the West Indies and the greater part of our own country we have the mornings cool the midday warm and the evenings or nights chilly attended with heavy dews, this applys to the United States only, in summer may not this be a reason why Hepatitis is so prevalent in these places we think so.

The Symptoms of acute hepatitis whether preceding or following chronic are very numerous, there are slight indications of fever for two or three days then a full

hard and frequent pulse a jaundice and extreme dryness of the skin the conjunctiva of the eye also becoming yellow, frequently a dry cough without expectoration owing to the diaphragm becoming somewhat implicated in the disease, The patient can rest with ease only on his diseased side there is severe pain in the right hypochondrium much increased by pressure extending up to the right or left shoulder as the great or lesser lobe of the liver happens to be the part affected.

Some have objected to the classifying of this extention of pain to the shoulder as one of the symptoms of Hepatitis as it does not always exist this reason is brutal and might with equal propriety be urged against any other symptom which we have or may mention there is sometimes costiveness of the bowels again a violent diarhea may exists.

In a short time suppuration may take place a cyst is formed into which pus is secreted, there is then a throbing pain in the part chills or rigors hectic fever night sweats and the tongue becomes coated the urine of a bright brown colour and if the abcess is formed on the convex surface of the right lobe of the liver it may be felt with the hand. At this time if no vent is made for the escape of the pus, by art the abcess may burst and its contents be discharged. This can happen in different ways externally through the parietes of the abdomen or internally into its cavity. Sometimes the matter works its way through the diaphragm and pleura into the lungs and is expectorated, again owing to a rupture of the abcess into the gall bladder or ducts into the colon duodenum or stomach the pus passes

through the intestinal canal and is discharged per anum. We must mention that the liver in a state of inflamation is apt to adhere to any other part or organ with which it comes in contact this happens in the cases in which the pus is discharged through the parietis of the abdomen through the duodenum flexum of the colon, or the stomach and per anum, for the liver having become attached to any of these they become diseased and ulcerate to give egress to the matter of the abcess of the liver.

Now this is not always the termination of the acute stage, it rarely happens in our country but is more common in warm climates, Numerous small cysts may be formed, scirrus or induration or tubercles may result or any of those the morbid conditions of the liver peculiar to Chronic Hepatitis. The symptoms attending

this stage withes following the acute or created by the slower operation of the same causes which produce the latter are usually indigestion an unhealthy jaundiced appearance of the skin a tongue coated with white fur traversed by fissures. a pulse small hard and frequent to the latter however there may be many exceptions. There is a continual sense of weight in the right hypochondriac region and pain is experienced in the organ when pressure is made upon it.
The urine very often depositing a pinkish sediment and the bowels extremely irregular.
In the pallid there may be a difficulty in forming a correct diagnosis, but this is only in the Chronic and not the acute. We are able to judge of the existance of the former by a close observation of all the circumstances attending the case for the symptoms are seldom very obvious. In the

latter however it is different in this the symptoms are generally well marked and violent. We can distinguish it from Pneumonia by observing that in this disease the cough is more violent the pain in the side is much more acute much increased by a full inspiration and respiration is performed chiefly by the muscles of the abdomen. The patient rests with ease on his unaffected side In Hepatitis these things are different and respiration is performed by the muscles of the thorax.

In the passage of a billiary calculus through a duct of the liver the pain though violent is intermitting, there are no signs of fever or inflamation, the action of the heart and arteries is not much increased. There is no dryness of the skin and the patient in his agony will throw himself into every position. In Hepatitis these things are not so, and the patient

is only easy in that situation in which the muscles over the liver are relaxed. There is certainly a great similarity between many cases of Hepatitis and Gastritis indeed they often exist together and it is only a correct knowledge of the relative situation of the two organs which enables us to discover whether but the one or the other or both of these viscera are affected by disease.

In inflamation of the stomach pain is generally increased by pressure on the Epigastric region only, but if this organ is distended by gas or aliment we often find a portion of it occupying the right hypochondrium, it is obvious then that pain in this region increased by pressure should not always be referred to the liver.

This should be particular as to the position of the patient while we are examining

with the hand he should occupy that in which all the muscles of the abdomen are relaxed his body should be flexed upon and his lower extremities drawn up towards the pelvis, this enables us to feel the viscera of the abdomen more distinctly.
The stomach should also be empty during the time of examination.
In both Gastritis and Hepatitis there is irritability of the stomach, and frequently vomiting, but in the former this takes place more frequently after substances have been taken into the digestive organ but in the latter often without this circumstance to excite it. In Gastritis the pulse is most commonly small hard and frequent in Hepatitis, we speak now of the chronic, it is sometimes small hard and frequent yet compressible and again quick but soft, and not wiery.
Heat Malaria and an intemperate manner

of living are the most obvious remote causes of this disease. The extraordinary sympathy existing between the skin on the surface of the body and the liver has been long since noticed seldom do we an impairment of the function of the one without a corresponding interruption in that of the other. The application of great heat to the surface of the body excites profuse perspiration this continued causes debility of the cutaneous exhalants and of the whole system. Again we are informed that the primary action of heat on the nervous system is by subsequent the secondary debility. Now through which of these mediums increased temperature acts with the greatest effect so as to produce that augmented action of the liver which ends in debility and consequently congestion we are not prepared to say certain we are however that Hepatitis is a disease of indirect debility and that heat per-

Spirits is also one of those causes which tend to produce a morbid condition of the liver This is supposed to be owing to their effect on the portal system constantly exciting the vessels of it to increased action thus causing congestion in the capillaries belonging to the liver.

The exciting causes of Hepatitis are many Cold all violent mental emotions external injuries, a derangement of the digestive function and sometimes a metastasis of other diseases. We have spoken before of the sympathy existing between the biliary secretion and perspiration when therefore the liver is in that state of excitability produced by any of the predisposing causes we have mentioned we can easily perceive if we admit of the sympathy supposed that any change of temperature impairing the function of the cutaneous exhalants will produce congestion of the liver.

In an essay of this kind more than the general outlines of the treatment of a disease cannot be given.

The modifications and stages of Hepatitis are various and different each one requiring an exhibition of Medicines peculiar to itself therefore to write of these seperately would be a labour which time at present will not permit us to undertake, and which we hope none will expect of us.

In the acute stage we make use of those remidies which tend to remove the local inflamation most speedily, of these the abstraction of blood both generally and topically, is the most powerful, next to it an Cathartics. Some practitioners particularly those in warm climates at the very commencement of this disease administer large doses of the Proto chloride of Mercury. To this our Professor of Practice objects and we agree with him. He says it increases the fever and adds to the

local excitement, The liver in its high state of inflamation, secretes an inordinate quantity of vitiated bile, this must be removed from the intestines calomel alone will not perform this it is not sufficiently active as a purge. Some to prevent its bad effect just mentioned combine it with a large dose of Opium, this is not proper, as the latter may prevent in a measure its purgative operation a circumstance which would be very injurious. If Calomel is given it should be in small quantities and in conjunction with some other purgative agent.

Our best Cathartics however are the neutral salts alone or combined with Magnesia Senna and Manna, Jalop and the Super Tartrate of Pottapa, any of these may be given liberally, Diaphoretics also, Small doses Tart Antimony, or Rushes Antimonial powder or Dovers powder must be used, & Nitro Muriatic pediluvium may be serviceable. The diet should

truly be antiphlogistic, nothing more than will do for the bare subsistence of the patient. Cooling vegetable acid drinks are also proper.

Should suppuration supervine a poultice should be applied on the region. Some use blisters but these are not as serviceable as the former. The bowels should be kept soluble, and the diet should be nourishing. If our external application will not produce an outward pointing of the abcess and if we have reason to fear its bursting internally, if we can discover its situation we are justified in making an opening with the lancet or trocar for the exit of the pus. The British surgeons perform this operation boldly without much to direct them and save the lives of many. If we can feel the abcess we should always make an opening into it. This should be kept open for some time with a tent. Gentle exercise if the patient can bear it is serviceable, but if there is much debility Tonics must be given. Porter as a drink is proper being nourishing as well as tonic.

At this period the Nitro Muriatic bath may be employed with much advantage. The Strength of it must be determined by the fulings of the patient, the acid may be given internally.
We have failed while speaking of the exhibition of Proto Chloride of Mercury to mention, Mercurial friction, this is a proper plan to affect the system with this medicine, if by it we can produce ptyalism we may cure the disease. For the cure of Chronic Hepatitis, much depends on the regimen made use of the diet should be pounding but no stimulating drinks should be taken. The patient should expose himself to no vicissitudes of weather, he should wear flannel next the skin. In this stage when the symptoms are more urgent Mercurial remedies must be resorted to, small doses of blue mass as an alterative, Mercurial friction is in this beneficial. Small doses of the neutral salts to regulate the bowels, The Tarraxacum

has been employed with some benefit.
Here also the use of the Nitro Muriatic
or oxymuriatic bath should not be neglected.
If the patient is a resident of a warm
climate a removal to one some what cooler
will very frequently go far towards the perma-
nent cure of the disease organ and the estab-
lishment of health.

This Inaugural Dissertation

on Angina Pectoris,

for the Degree of Doctor in

Medicine,

is submitted to the Provost, Trustees and

Medical Faculty

of the University of Maryland.

by Edward I. Rutter L. M.

of Baltimore.

Session 1836 & 37.

To my Friend and Preceptor,
Dr. Geo. S. Gibson
of Baltimore,
this the humble production of his pupil,
is with gratitude inscribed.

Angina Pectoris

Cardiogmus Cordis Sinistri, Sauvages.
Asthma Arthriticum, Schmidt
Diaphragmatic Gout, Burton
Asthma Dolorificum, Darwin
Syncope Anginosa, Parry
Angor Pectoris. J. Frank
Asthma Convulsivum, Elsner
Asthenia Pectoralis, Young
Steno Cardia, Brera
Sternalgia, J. M. Good

Although it is probable that this disease was known to some of the early authors as Aretæus and Cælius Aurelianus, yet nothing definite was known concerning it, untill the late Doctor Heberden published his very excellent paper on this subject in the year 1772.

He says "They who are afflicted with it, are siezed while they are walking (more especially if it be up hill, and soon after eating) with a painful and most disagreeable sen-sation in the breast, which seems as if it would eptinguish life, if it were to increase or continue; but the moment they stand still, all this uneasiness vanishes.

"In all other respects, the patients are, at the beginning of this disorder, perfectly well, and in particular have no shortness of breath, from which it is totally different.

The pain is sometimes situated in the upper part, sometimes in the middle of the sternum or at its bottom, and often more inclined to the left than to the right side. It likewise very frequently extends from the breast to the middle of the left arm.

The pulse is, at least sometimes, not

disturbed by this pain, as I have had opportunities of observing by feeling the pulse during the paroxysm.

Good defines it to be "Violent pain about the sternum, extending towards the arms: anxiety, difficulty of breathing, and sense of suffocation.

The duration of the paroxysm is very various, in slight cases being over in a few minutes, in others it lasts an hour.

An attack is often preceded by derangements of the gastric functions, as acid eructations, flatulencies &c but it often comes on suddenly, and without any previous manifestations of its approach. In its chronic forms it frequently attacks during the night, and while the patient is at rest, under which circumstances, its duration is much longer; but it is not so violent. When it goes off, the patient, merely retains a sense of numbness in the arms, which soon subsides, and leaves him perfectly well.

In this form the paroxysm sometimes continues for many days.

Palpitations and irregular action of the heart, are very often its concomitant symptoms.

Notwithstanding the great distress which accompanies it in many cases, it is usually some considerable time before the constitution appears to suffer.

After a long and tedious attack however, and in some cases at an early period, the general health suffers, and distressing disorders of the digestive and circulatory systems arise and in many cases the unfortunate patient is affected with dropsical swellings, dyspnœa &c.

But it more commonly happens that before this state of things arise, the patient is suddenly carried off in a paroxysm: and thus his almost insupportable existence is terminated. It most commonly attacks those in the decline of life, and the male sex more than the female.

Dr Copeland says, that of nearly one hundred cases, about seventy were upwards of fifty years of age, and seventy nine of the number

were males, nearly one half of them terminated fatally and almost the whole of them suddenly

It is most generally met with, in those of a rheumatic or gouty habit or in those who lead a sedentary life and in persons addicted to the pleasures of the table.

Mental affections are very active as predisposing causes, and it is always aggravated by whatever tends to disturb the equilibrium of the mind. Hamilton thinks it to be hereditary, and Chapman, Ritter and others regard it as of gouty origin. In many cases and perhaps in the majority, it may be of arthritic origin but it is certain that it is not always so.

The exciting causes are very various, walking up an eminence, or with the face towards the wind, espicially when the stomach is distended with flatus, food &c. In those who are subject to it, the most trivial and insignificant causes give rise to it, such as coughing, laughing, straining, speaking very loud, or even eating, and sometimes it attacks during sleep. It is also brought on by sudden atmospheric vicissitudes.

Angina Pectoris is more liable to be confounded with Asthma, than with any other disease. They may readily be distinguished however, by attention to the following circumstances, viz; in Asthma the paroxysm always comes on during the night, and in all cases dyspnea, wheezing and cough are present, they are relieved by fresh air and subside towards morning.

In angina Pectoris the stethoscope is always useful in informing us whether there is any organic disease of the heart, or of the great trunks which arise from it: and it is much to be regretted that this invaluable means of diagnosis is not more frequently resorted to.

The prognosis is generally unfavourable, but in recent cases, under proper management, recovery will frequently take place. But in long continued and protracted cases, or where the patient is neglected, or where the constitution has began to suffer, death will generally occur in spite of the best and most judicious treatment.

In these cases

it most commonly takes place suddenly, the action of the heart being instantly arrested.

When it is accompanied by symptoms of Hydrothorax or Edema, it in all probability is dependent upon organic disease of the heart, and a fatal termination is not far distant.

Concerning the proximate cause of this disease, there is great diversity of opinion among Pathologists, notwithstanding the great number of autopsies made expressly with a view to determine this point.

One of the latest and best writers on this subject is Dr Copeland. He says that the morbid appearances most commonly observed, are ossifications of the coronary arteries, valves or of the great arterial trunks; enlargement of some of the cavities of the heart, either with diminished or increased thickness of their parietes, but most frequently with softening, paleness and tenuity of the muscular structure of this organ; varicose dilatation of the coronary veins (Brera) depositions of adipose matter to

the extent of impeding its functions, effusions of serum, blood &c into the pericardium or cavity of the pleura.

Mackintosh in his Elements of Pathology and Practice gives a very interesting account of the morbid appearances in one case which fell under his observation. He says "On opening the thorax, the pericardium containing a heart of enormous size, seemed to fill the chest and concealed its other contents. It lay obliquely across, occupying a space of about 4 inches extending from the 7th rib on the left side to the 1st on the right. In size it resembled a large ox's bladder fully distended. The right lung compressed into a narrow space, adhered firmly to the surrounding parietes every where except in the antero-posterior part. It was greatly engorged with blood, but upon minute examination was found healthy in structure. The left lung free from adhesions, was found compressed into a small space also. The heart was then carefully removed when the fore part of the bodies of five or six of the dorsal vertebrae were observed to be partially absorbed from the pressure of the heart. On opening the pericardium, it was found to contain a small quantity of serous fluid and some bubbles

of air; its coats presented a natural appearance, and there were no adhesions with the heart. The heart appeared to all present to be about the size of the heart of an Ox — it was enlarged in every part, and the left auricle and ventricle were fully distended with blood. Both auricles and ventricles were in a state of hypertrophy, and perfectly dilated, the left ventricle contained more than twelve ounces of blood The orifices were all remarkably dilated also, but the valvular apparatus was found in a sound state. The size of the aorta was not much if any increased: from the arch its internal surface was vividly red as were the mucous membranes in every situation"

Dr Wins says "there is scarcely any malformation of the heart or its blood vessels, that is not occasionally found after death, from what would be considered angina pectoris: while on the other hand, individuals have fallen victims to this affection fully marked, and the most accurate post mortem examination has not been able to detect the slightest indication of structural derangement."

Compend. Theoret & Pract. Med.

In many cases not the slightest morbid appearance of the heart or great vessels is observed, but we find traces of diseased action in other and distant organs. In these cases it is as Professor Potter justly observes a mere symptomatic affection.

In the Sixth number of the American Journal of the Medical Sciences, there is an account of the dissection of two cases. In the first case, the right ventricle of the brain contained from ten to fourteen drams of perfectly clear serum, and the left from six to eight drams of the same colorless fluid: the arteries at the base of the skull were ossified in patches. Two ounces of bloody serum were found at the base of the skull. In the thorax the left lung was distended with air, and adhered to the pleura universally, the right lung was healthy and not adherent. The heart was very large and fat, filling the pericardium: the coronary arteries were much ossified but there was no other diseased appearance. In the Second case, the ventricles of the brain contained from four to five ounces of fluid. The vertebral arteries were ossified partially. The lungs were perfectly healthy

but very much engorged with blood. The pericardium was healthy, but contained tivo ounces of fluid. The coronary arteries were inflamed and partially ossified.

Percival, Latham, Brera and Walker, have observed tubercles, enlargement and schirrosity of the liver in some fatal cases.

Heberden considers it as a spasmodic disease. Fothergill thought it to be occasioned by obesity, and especially by a deposition of fat about the heart, and that it denoted in some cases a collection of water in the pericardium.

Parry, Burns, Kreysig, Bostock, Jenner and others have looked upon it as caused by accumulation of blood in the heart from calcareous degeneration of the coronary arteries. Laennec on the other hand declares that in many cases the coronary arteries were not ossified and Morgagni, Corvisart and Andral confirm this opinion.

Bertin says that "taking as our guide exact and rigorous observation, it is impossible to refer the symptoms which characterize angina pectoris to any lesion of the heart exclusively. We have seen these

symptoms accompanied by a multitude of different organic affections, either of the heart, or of the large vessels or even of the lungs."

Treatise on Diseases of the Heart.

The celebrated Dr Baillie says "Ossification of the coronary arteries, would seem to produce or to be intimately connected with the symptoms which constitute angina pectoris."

Morbid Anatomy.

Burns agrees with Parry in his view of the pathology of this disease.

Dr Fothergill remarks "from the description of the pain, its course, which was across the breast and down the arms to the elbows; I could not forbear suspecting, that the Sixth pair of nerves and their numerous connexions were the seat of this disease"

Laennec thinks the complaint is seated in the nerves, but is of opinion that the particular nerves in which it is seated may vary.

Seale refers the various symptoms to an affection of some portion or portions of the spinal marrow, and of the corresponding ganglia of the sympathetic.

Darwin views it as a particular species of asthma, producing cramp of a peculiar kind in the diaphragm, or the other muscles of respiration.

Copeland says that in about fifty fatal cases described by authors nearly forty presented some degree of disease of the heart or large vessels; — most frequently ossification of the valves, coronary arteries and aorta, and softening and emaciation of the heart.

Mackintosh however says that he found the coronary arteries extensively ossified in two cases, and a third in which they were completely so without a single symptom of this disease.

Dr James Johnson of London, Professors Eberle and Smith believe that it is a neuralgic condition of the nerves of the heart; and in all probability this is the most correct hypothesis, this doctrine is also maintained by Lobstein who remarks "that ossifications of the coronary arteries are effects only, and not the cause of the disease, as they occur in individuals who have never suffered from it. Others believe it to be essentially connected with an arthritic condition of the system, while Desportes places its seat in the pneumogastric nerve.

Treatment.

This portion of our subject, may be conveniently divided into the means, necessary in the paroxysm and those which are used during the interval, with the design of accomplishing a permanent cure.

With regard to the first of these divisions, no general rule strictly applicable to every case can be laid down. However in all cases, he should be kept perfectly quiet, and if he be pale a recumbent posture is preferable as there is usually a great tendency to syncope.

If however he be plethoric, or there exist any evidences of congestion in the heart, and lungs, the use of the Lancet is imperatively called for. In some cases where bleeding from the arm is not called for, cupping between the shoulders is very useful.

This practice is especially demanded in recent cases, and in young and robust constitutions.

But in nearly all chronic cases, especially in debilitated and weak habits, or where he is subject to severe fainting fits, with an

impeded action of the heart, stimulating frictions are useful when applied over the anterior wall of the thorax; and stimulants and antispasmodics ought to be given internally: they are to be carefully watched however, and the cases requiring their exhibition, to be particularly discriminated from those where they would prove decidedly injurious.

As to the quantity of blood to be taken, the practitioner in this as in all other diseases, is to be guided by the other circumstances of the case, as the state of the pulse, countenance &c. Where the pulse is feeble and soft, with a weak action of the heart, it is usually injurious, and this also true in those cases where there are no signs of congestion, or when the vital energies of the patient are depressed; and we presume that the substance of the heart is attenuated or imperfectly nourished; but here also we must be very cautious in the exhibition of stimulants.

Next to the employment of the above means, the bowels are to be evacuated by cathartic medicines united to some warm antispasmodic or carminative, as Ether, Camphor, Musk, oil of anise &c and these are to be

repeated pro re nata.

Dr Copeland recommends the following plan in slight cases where depletion would be imprudent viz:

"Friction with ~~either~~ of the following liniments over the Thorax or Epigastrium,

℞

Liniment: Camphor: Composit
Liniment: Ammon: portion aa ℥j
Tinct: Capsici ℥ij M. and the exhibition of either of the following draughts,

℞

Infus: Valerian ℥xi
Spts: ammon: fetid ℥ß
Tinct: Castor ℥ß M. ft haustus.

℞

Infus: Senna: Comp ℥iß
Tinct: Senna ℥ij
Aromatic spirit of ammonia ℥ß
Tinct: Cardamon: Comp ℥j M ft haustus

Mackintosh and Good recommend emetics. The latter author remarks that "the patient should take an emetic of whatever may be given most expeditiously: although the antimonial emetics form the best, as producing a longer action"

Mackintosh says he has seen leeches serviceable as well as the application of a mustard plaster over the precordial region; and that long continued counter-irritation on the chest with tartar emetic ointment, is to be persevered in for a considerable time: and repeated at intervals upon the least unpleasant sensation in the chest. Heberden says bleeding, vomiting and purging are improper in this disease.

Copeland used emetics in one case, but they were productive of no advantage.

Revulsives to the lower extremities generally useful.

Dr Thomas recommends the following draught as useful in the paroxysm,

℞. Aquæ menth: pip, Spt: Carui aa ℥ß
Ether Sulphuric m XX, Tinct Lavand m XV
M ft Haustus

He also says "when the state of syncope continues long, the application of a large blister to the chest, is useful as is also the passage of slight electric shocks through it, at the same time rubbing the limbs with some stimulating embrocation."

Mackintosh further remarks that if there be no disease of the heart, very large opiates united with colchicum will be occasionally found singularly beneficial. Heberden also says that opium taken at bed time will prevent the attacks at night and Good, that he has been informed that some preparation of the prunus lauro cerasus has been used with advantage in the paroxysm.

With regard to the means necessary during the interval they are either general or local.

The first and most important circumstance to be taken into account, is of course the avoidance of every thing which can have the slightest tendency to induce an attack. The strictest attention is to be paid to the condition of the digestive organs; and a mild and

easily digestible diet to be rigidly enforced: and as the tone of this apparatus is usually low, and the bowels constipated, or irregular, vegetable bitters with the occasional interposition of an alterative aperient, either administered by itself, or in combination with an antispasmodic or carminative will often be found very serviceable.

The muriate of ammonia with Hoffman's anodyne; Sulphate of Zinc in small doses as a tonic; hydrocyanic acid; the ferruginous preparations &c have occasionally been used with advantage.

Whenever we have reason to believe, that the substance of the heart is debilitated, imperfectly nourished, or attenuated, tonics, as quinine, the preparations of iron &c are peculiarly applicable.

Copland used the nitrate of silver triturated with a vegetable extract, it produced an eruption resembling urticaria, when the relief afforded was decided and permanent.

Arsenic in the form of Fowlers' Solution has been recommended by Dr Alexander in the 15th volume of the Medical Commentaries.

The different preparations of Valerian, quinine, Cuprum ammoniacum, Guiacum, Cicuta Assafetida, Hyoscyamus, Stramonium have also been lauded by different writers; but it is to be feared they will totally fail in a majority of confirmed cases.

Dr Copeland recommends the following pills,

℞

Extract: Anthemidis ℥ij
Quinia: sulphat grs XII
Mass pill: Galban: Comp ʒj
Camphorae: subactae grs XV
Syrup: papaver q.s. Make XXIV pills, and take from one to three, thrice a day.

Brera recommends mercury, and there can be no doubt that when the disease is merely symptomatic, and is dependent on hepatic congestions, that this remedy

will be found of the utmost advantage; and a case is ~~reduc~~ recorded by Copland which was dependent on hepatic congestion; in which it perfectly succeeded in accomplishing a radical and permanent cure. Where the disease has for its cause enlargement of the heart will not Iodine be found of the utmost benefit?

When the patient is capable of taking exercise, it should always be used; and that kind ought to be preferred, which gives the least ejection or jar to the body; as sailing, riding in an easy carriage on a smooth road; and change of air to a warm, dry, and airy situation, is sometimes of great service.

Laennec strongly recommends magnetism; he directs it to be applied in the following manner "I apply (says he) two strongly magnetized steel plates, of a line in thickness, of an oval shape and bent so as to fit the part, — one to the left precordial region and another exactly opposite on the back; in such a manner that the magnetic current shall traverse the

affected part. This method is not infallible, any more than others employed in nervous cases; but I must say that it has succeeded better in my hands, in the case of angina than any other: as well in relieving the paroxysm, as in keeping it off."

Much good will sometimes accrue from the long continued use of issues and setons. Macbride and Darwin applied them on the insides of the thighs. Goodwin and Autenrieth recommend pustulation with tartar emetic, and Percival used blisters with advantage.

When it is complicated with other affections the treatment is of course to be modified accordingly.

"In all cases, whether simple or complicated, attention to diet and regimen: a pure air, amusement without excitement, an equable and contented state of mind, are not only requisite to recovery, but are also necessary to render it permanent

An

Inaugural Dissertation,

on

Acute Gastritis.

addressed to the Provost,

Trustees & Medical Faculty

of the

University of Maryland,

by,

George Perry Jones,

for the degree of Doctor of Medicine.

1836.

Acute Gastritis.

Before describing the symptoms which characterize this disease, it may not be superfluous to give a brief anatomical description of the organ in which this painful, and often fatal disease is located.

The stomach is a hollow viscus placed in the epigastric and partly in the left hypochondriac region; intended for a receptacle, and to retain the food until it has undergone certain chemical changes preparatory to its reception by the small intestines.

Its shape is somewhat conoidal, curved considerably upwards, its shape more nearly approaches that of the bag of a bag-pipe; it has two orifices, the oesophageal where the oesophagus terminates, and the pylorie by which it is connected to the duodenum.

The stomach is formed by four coats, differing essentially from each other in character: The Peritoneal, the Muscular, the nervous, and the Mucous.

The Peritoneal is very thin and is attached to the subjacent muscular, by very thin cellular substance by which it may be dissected from the muscular.

It is the most external envelope, and completely surrounds the organ; it consists of two lay-

-ers, which unite at the curvatures and form the omentum major and minus.

The muscular coat is situated immediately under the Peritoneal, and is composed of three distinct set of fibres, distributed in three different directions; The first or longitudinal are a continuation of the longitudinal fibres of the oesophagus, and are less numerous and more irregular in their distribution than the circular fibres; The second are the circular fibres which are more numerous go around the stomach in a circular form and are very abundant by distributed to the pyloric orifice when they form a lamina of considerable thickness; The oblique are the third set and have been by some anatomists described as a continuation of the circular fibres of the oesophagus. The next coat is improperly described by some anatomists as nervous, but it merely consists of condensed cellular substance, and serves as a bond of union between the Muscular, and mucous coat.

The mucous coat is the last, it is a continuation of of the membrane which lines-

the mouth, oesophagus and alimentary canal.
The colour of the stomach in a healthy individual is that of a pink suffusion, and looks very much like it was injected with blood, hence the reason why some have supposed it to be inflammation.

The stomach is one of the most vascular organs in the body; it has, numerous blood vessels, nerves, lymphatics; and also, numerous little glands situated & distributed on its, mucous surface.
The arteries which supply the stomach with blood come from the caeliac, they are the Gastric, the Right and the Left Gastro-Epiploic, and the vasa Brevia.
They all approach it through the opening formed by the lamina of its omenta, they ramify minutely every portion of the stomach, and terminate in a delicate vascular arrangement in the substance of the mucous membrane. The veins follow the course of the arteries, and terminate ~~in the~~ in the trunk of the vena Portarum.
The nerves of the stomach come from the Par vagum and the semilunar ganglion of the Sympathetic

Having thus given as brief a description of the anatomy of the stomach as possible, I shall endeavor to describe the symptoms which characterize Acute Gastritis.

Symptoms. This disease is often preceded by a chill, which is followed by fever, hot and dry skin, depressed pulse, great heat and pain in the Epigastric region increased on pressure, great prostration of the whole system, the mouth is dry and clammy, frequent desire for cold drinks, on the administration of which there is temporary relief experienced; nausea and vomiting & diarrhea; hurried and anxious respiration, owing to the inflamed Stomach rendering the descent of the diaphragm painful; the patient is often delirious, owing to the great sympathy between the brain and stomach. The countenance exhibits marks of deep distress. The patient keeps his body elevated, and his lower extremities drawn up in order to relax the abdominal muscles: There is also a small dry cough, caused partly by the irritable condition of the Pneumogastric nerve.

The tounge at first is white but soon becomes red and dry, and towards the decline of the disease it becomes brown & dry in the middle with red edges.

Causes. This disease is often the consequence of external violence, such as blows inflicted upon the epigastric; cold water taken into the stomach when the person is very warm and perspiring; cold ice cream taken in when the patient is excited as by dancing, it is frequently produced in this manner: Indigestible articles of food also act as a cause; cold applied externally so as to produce irregular capillary action, and the suppression of habitual discharges are also frequent causes: certain poisons as arsenic, Bichlo of mercury &c and many of the acro narcotic poisons also produce this disease; metastasis of certain diseases as gout &c, certain atmospherical poisons also produce it; the malaria that produce yellow fever almost always produce inflammation of the stomach. Besides these causes, there are many others of an occult nature

Diagnosis. This disease is most apt to be confounded with colic; but the diagnosis between them can be drawn with so much certainty & correctness, that he who confounds the two diseases, cannot have a correct knowledge of the symptoms and pathology, which mark the two diseases: one is an inflammatory and the other a spasmodic affection; though certainly spasms may be present in the former, particularly when the Muscular coat is implicated, but never to such an extent as in the latter.

In acute Gastritis the pulse is depressed, and very small; in colic it is nearly natural, but occasionally it is frequent; in inflammation the pain is acute and lancinating; in colic it is dull and twisting, and the patient feels as though his intestines were twisted around each other: in the former disease the patient lies still & endeavours to keep his body in a quiet position; but in the latter he is turning, twisting, rolling, and throwing himself about in every position possible to give himself ease, and generally finds most ease when he rests on his abdomen, whereas ~~the~~ patients labouring under inflammation of the stomach generally finds most rest ——

on his back. in inflammation of the stomach the pain is always increased on pressure, but in colic relief is always temporarily experianced; vomiting and diarrhea are frequent concomitants in the former affection but in the latter the bowels are always constipated, warm drinks always aggravate the symptoms of the former disease, but frequently give relief in the latter, stimulants increase the pain in the former but give ease in the latter; in spasms of the stomach the pain sometimes intermits for hours but in inflammation it is continuous and there never is an intermission; the skin is hot and dry and the tongue furred and red in Gastritis, but in colic they are both in a natural condition.

Treatment. Benesection is by far the most important remedy we possess, for although the pulse is deprived of the evil of this disease and would be apt to deter the physician from copious blood letting, yet one who has seen this state of the pulse, and let blood copiously, cannot but have remarked the gradual rise of the pulse in proportion as blood-

has flowed from the arm; it should be drawn from a large orifice and suffered to flow until approaching syncope and should be repeated pro. re nata. after the patient has been let blood he should next be given a good stimulating enemata, and for this purpose none answers better than ol. ricini, which may be given in an infusion of senn, lini. it is beneficial in two respects, first it evacuates the bowels, and produces a salutary revulsion; next to injecting large and sedative doses of opium should be administered, opium is a valuable agent in the treatment of the phlegmasie of the alimentary canal. Leeching and cupping can not be trusted to in the commencement of the disease but they may be used with advantage towards the decline, and after their application a large cataplasm should be applied warm to the part.

Cathartics cannot be administered in the first stage of this disease, except perhaps one which is very mild namely the oleum ricini which is

very mild, and does not create much irritation, and as it is necessary that the small intestines should be evacuated, the one above mentioned is probably the least objectionable.
Cold ice water should be allowed freely in this disease as it immediately relieves pain, and we do not possess a more valuable agent except blood letting, than cold applied either externally or internally for the subduction of inflammation. Blisters may also be used after proper V. S. has been practiced.
Considerable advantage may be obtained from the use of mucilaginous drinks, such as flax seed tea, infusion of slippery elm &c

During convalescence the greatest care must be paid to diet and regimen; all solid and stimulating articles are objectionable. nothing but the most mild and bland nourishment should be allowed, such as gruel rice water milk and gruel, and preparations of arrow root rice or tapioca.

Read

An
Inaugural dissertation
on
Erysipelas

Addressed to the
Honorable
Trustees
and
Faculty
of the

University of Maryland

for the degree of
Doctor of Medicine
By

David W. Brodnax
of
Dinwiddie
Virginia
1835

This disease received its name from the Greek words ἐρυθρὸς, to draw, and πέλας, near, from its prompt to encroach on neighboring parts. It has also been called St. Anthony's fire, Ignis sacer, the Rose, and other names suggested by its color, alike unsatisfactory and unexplicative of its nature and pathology. It belongs to the class Pyrexiæ and order exanthemata of Cullen; but the propriety of its being ranked among the exanthemata has been questioned by some writers. If it be an idiopathic disease, a position which we shall consider hereafter, it should properly be called erysipelas, just as other inflammations are called by particular names; but if it be merely symptomatic of some previously existing morbid affection, then it should more properly be considered as an erythema. The distinction which has been made between erysipelas and erythema, founded on the respiration and swelling more frequently accompanying the former, is more dependent on the mode of action than its pathological nature.

Causes.—By far the most common cause of erysipelas is cold. Sudden vicissitudes of temperature in

very apt to become the exciting cause of this disease in an individual who has been previously subject to it, or who has been labouring for a length of time under other diseases; and such vicissitudes have occasionally developed it so extensively as to give rise to its just claims to the title of Epidemic. And yet when thus prevailing epidemically, it has never been known to invade a whole nation, attacking every individual indiscriminately; but has always confined its ravages to one particular locality or situation, showing clearly that it is not dependent merely on a certain constitution of air, but requires the cooperation of some other for its development. This cause is the condition of the patient's constitution. It is a cowardly disease, attacking those who are weakly and incapable of resisting it, in preference to those who are more robust and better able to withstand its assaults, selecting a favorable opportunity when assistance is at hand, in preference to entering into an open, single handed engagement. In many instances it would seem to be an independent affection, cooperating with no other; but if such cases were closely scrutinized, there would always be found some constitutional cause (such as-

ing been established either by general debility, or by some pre-existing local affection - the effects of which have been already formed by the constitution. Why the exciting cause should have developed it at that time, when in a different state of things it would have produced no such effect. It has often been observed in our depleting towns that the students, such of them at least as imprudently in the commencement of the session, when just arrived from the pure and wholesome atmosphere of the country; but towards the close of the session, when they have been leading a confined and sedentary life, breathing the impure atmosphere of the city to which they have not been accustomed, their minds too, harassed by the anticipation of an approaching examination on which depends their reputation and their credit, such accidents are apt to lead to the most distressing consequences. Empirics, conscious as it were, of the advantage which time have over the constitution, reign on the imprudence of individuals, extending rapidly, deeply and too often, fatally. The soldier, too, broken down by long fatigue and continued hardships, meets

the foe, and in the conflict which ensues he receives
a wound, which, though slight, and not sufficient
to cause him to withhold the hand of vengeance, be-
comes the exciting cause of this disease, which, seizing
on the long-looked-for opportunity, hurries him, con-
[illegible] into the way of all flesh. Where such a predisposition
exists, causes apparently the most trivial will ex-
cite it. The slightest wound or prick; a scratch from a
splinter, or stick from a pin; indigestible articles
taken into the stomach, such as crude vegetables, un-
ripe fruit, cockles, crabs, shrimps, oysters, certain
sea fish, particularly the dolphin; effluvia from
certain plants have all been known to excite it. It has
also been known to supervene in the course of acute
diseases, breaking out suddenly, and acting the part
of a critical discharge, to carry in its exit the dis-
ease with it. Sudden and violent mental emotions, will,
under favorable circumstances excite an attack of ery-
sipelas.

Much dispute has arisen with regard to its
capability of propagation by contagion. The advo-
cates of the affirmative cite as proof, the frequency of its
occurrence in hospitals, and the rapidity with which,

under such circumstances, it spreads from ward to ward, until it has invaded the whole. Such has been the case, and such unfortunately have been anticipated. Persons go to hospitals when afflicted, labouring, generally, under those very diseases in which Erysipelas is accustomed to occur, even when the patients is surrounded by the most comfortable circumstances. How much more probably will it appear where the atmosphere is foul and confined; where there are a great number crowded together in one apartment; and where they are incessantly deprived of so many of those comforts calculated to smooth the pillow of affliction and to restore the body to health? Under these circumstances there occurs, perhaps, a sudden change in the atmosphere; having been previously dry and warm, it becomes cold and damp; the patients feed in common upon some particular article of diet, and are attacked in common with the hospitals offspring of these common causes. It frequently commences in one ward and appears almost simultaneously in another, the inmates of which have not been in contact with those of the ward first affected, nor had any com-

communication with them. If it be contagious, it ought to obey the laws to which all other contagious diseases are subject; it should never affect the same individual more than once; it should never be occasioned by those causes which give rise to other diseases; it should affect every individual coming in contact with it, having never previously had it; it should be capable of propagating by its own virus or effluvium, and that alone; it should be preceded by its own peculiar eruptive fever, continuing for a definite period before the appearance of the eruption, and determining not until it has run a fixed and determined course. Yet all these laws does this violate, and still it is called, by some, a contagious disease.

The seat of this disease is in the dermoid tissue. The lining membrane of the stomach and intestines would seem, in most cases, to be the first portion of the system affected. Irritated by offending ingesta, its functions are deranged, unhealthy action takes place, and this unhealthy action is radiated to the external integu-

wants, which are so essential to the performance of the vital functions, and better able to sustain the unhealthy action of those morbific matters. In many instances, as for instance, when it appears around a wound, it would appear to have been primarily located on the external integuments. In such instances the disease has probably been lurking about in the system, having a favorable opportunity for establishing itself on a particular part, no such opportunity having occurred until the application of the wound. Some disorder of function has, unperceived by him, been going on within unobserved, and this is among the external visible signs of an internal invisible affection — a salutary device of nature to fix the disease on an open communication, robust and unimportant, upon which she can direct upon an organ deficient in its structure and more immediately essential to the preservation of life. When the predisposition of the disease is occasioned by the indurated vesicles, as is frequently the case, this eruption would appear to act the part of a blister, and by its powerful influence to de-

tract from the morbid state of the viscera. From these positions it would appear that the disease is not, properly speaking, idiopathic, being always engrafted upon some constitutional disorder, which may, or may not, have been previously observed.

It has been customary among authors to divide Erysipelas into many varieties, according to the seat, or some supposed differences in the nature of the disease; such as Erysipelas Infantilis, phlegmonodes, phlictoenodes, Shingles &c.; yet none of these terms indicate the nature or pathology of the disease. It is the same disease under all of these names only differing in the degree of action; its particular location making it more or less formidable according to the proximity of an important organ which may become implicated. In young children it is generally less inflammatory than in adults, being, in most cases produced by irritating substances taken into the stomach, which its delicate system cannot yet bear; or by imprudent exposure to cold and damp air; and is removed as soon as the cause ceases to act. It would, perhaps, be found convenient in practice to make the following divisions, in as

much as different degrees of skin may require different modes of treatment; simple, phlegmonous, gangrenous, tedematous and erratic.

Simple Erysipelas is characterized by a diffused, rose redness of the part, disappearing on pressure and returning as soon as the pressure is removed; accompanied with a peculiar itching, tingling sensation of heat. The redness is sometimes confined to one spot, sometimes diffused over a broad surface. The cuticle is a little elevated, especially about the roots of the hairs, which is more sensible to the sight as to the touch. Sometimes small vesicles appear about the third or fourth day, which burst and give vent to a serous discharge; but more generally it terminates in resolution. There is a sense of general depression, slight pains in the limbs; the appetite is gone or lost in part; frequently there is a sense of chilliness, and slight shivering followed by fever with head-ache, nausea and sometimes vomiting.

Treatment. In simple erysipelas all that will generally be required is an occasional aperient to keep the bowels soluble; an emetic bottle to the practice of evacuating the stomach and regulating the circulation and perfect

nal applications such as chlorine water, liniment, linseed oil &c. Cold and warm applications have both been recommended and perhaps, either might be used with advantage. Cold by its sedative effect would reduce the morbid sensibility of the nerves and thus allay pain, which latter would have the desired permanent effect of reducing the morbidly distended walls of the capillaries down to their original calibers, and thus of restoring the part to its natural condition. If the inflammation be much diffused cold applications, medicated, or not, with opium, should be applied to abate the pain and keep down the irritation, and other measures trusted to for the permanent breaking up of the disease; for in such cases the momentary pain additionally occasioned by an application hot enough to produce the necessary contraction of the vessels, would bear rather more disproportion to the urgency of the case, than the necessity of the case would demand. Suppuration would excite a new action in the part, to the breaking up of that previously existing; but this alone is a remedy dire. Should not be resorted to, unless when the inflammation

were becoming more severe in spite of the more mild means employed. When the pulse demands it blood-letting should be employed. When visceral induration has been the predisposing cause of this affection, Calomel will not only be found serviceable but essentially necessary to a complete cure. Small doses of calomel with an occasional laxative will very generally remove the disease quickly. In children sinapisms are particularly serviceable. If simple erysipelas be suffered to run on, or the proper means be not taken to arrest it, it will assume a more decided action, attacking not only the skin, but also the subcutaneous cellular membrane, and it is to this variety that we give the name Phlegmonous. In this variety the symptoms previously detailed are more violent. The swelling is more prominent, terminating more abruptly, and its edges being better defined. The pain is burning, itching, acute, but not throbbing; there is more anxiety and restlessness; the pulse is more excited, being quicker, fuller and stronger; the bowels are generally constipated, from the irritation existing

in their living membrane; head more severely affected, the tongue is covered with a brownish coloured fur; in short all the symptoms indicate a more decided typhoid grade of fever. About the second day small bullae appear on the surface of the inflamed part, which sometimes burst spontaneously, discharging a yellow sanious matter, the part beneath appearing gray; but more frequently the pus which has already been formed within them, instead of being discharged externally, burrows a passage beneath the integuments, bursting up the cellular membrane in its progress, and diving down beneath the muscles, strips them of their sheaths, and dissects them completely from their relationships. The matter is diffused throughout, not collected in sinuses, for there is no adhesive lymph thrown out by which such sinuses can be formed to prevent its progress. Should the patient recover after the disease has extended thus far, he will be unable to use the limb, the muscles having become attached to each other, and their motions thus obstructed. When the face is attacked,

the capillary vessels being distended must become their natural calibre, from which the greater quantity of serum, which collecting in the cellular membrane, of which there is an abundance, there produces an enormous swelling like a bladder filled with water. Indeed it is sometimes so much swollen that the nose can scarcely be recognized as a prominence, and the eyes are nearly closed. The brain, from its proximity to the seat of inflammation, which latter may also be extended along the vessels between the scalp and the membranes surrounding the brain, is extremely apt to sympathize with the inflammation, giving rise to delirium, coma and, if relief be not afforded, death. Treatment. As the excitement is great and the inflammatory action high, blood-letting is undoubtedly indicated. This remedy has been objected to on account of the supposed tendency of this, to run into the gangrenous variety; but facts opposed to opinion, and experience has demonstrated its usefulness. Never having had the benefit of experience myself, I shall appeal to that of our highly distinguished professor of Surgery for the truth of this assertion. Headache

ies that the patient should be placed in a sitting or erect position and a large orifice opened, thus making a sudden impression on the system without the loss of much blood. This is often necessary to be done, because the disease is generally engrafted upon some constitutional derangement which will not admit of the loss of much blood. Local blood-letting I deem of the greatest utility; yet this, too, has been objected to for two reasons, first, because by applying leeches to the inflamed surface more blood is drawn to it than would otherwise have found its way there, and although blood is drawn from the vessels themselves implicated, this is compensated for by this additional quantity of blood; secondly because the leech bites are apt to become gangrenous. Those who object on the first ground mentioned, advise that the leeches should be applied around the inflamed part, on the healthy skin, yet it is clear that by doing this they render local blood-letting obnoxious to the very objection which they urge against its being practiced over the seat of inflammation, for the suction of the leeches establishes a current towards that part, and the blood drawn

thither, when it arrives at the division of the trunk along their transmission, when the leeches are applied, divides, some going into the vessels already inflamed, the rest going back by the communication to which the leeches are applied, and is drawn out by the leeches. What which has gone to the inflamed vessels, meeting with any force to draw it out, accumulates there and adds to the mischief which the remedy was intended to overcome. When applied over the inflamed surface they not only draw out the additional blood brought there by their application, but from their numbers & sufficient, and by the stimulus necessarily their bite, they excite a new action in the capillary vessels incompatible with the one previously existing. Their bites may become dangerous occasionally, but this accidental effect should not cause them to be rejected, in as much as this far surpassed by their salutary influence. Blisters over the inflamed surface would have the effect of stimulating the capillary vessels down to their original calibers, and forcing the blood causing their distention back into its proper

channel. Around the inflamed part, they would form a morbid effusion, to the exclusion of the necessary the presence of corpuscles. Nitrate of silver over the inflamed surface would also counteract the morbid distended capillaries, and by decomposing the cuticle it forms a crust which will protect the irritated part from the action of foreign bodies and screen it from the contact of the atmosphere, which seems, in some manner, to be deleterious. The condition of the internal organs should by no means be neglected. In all cases, if not acute, all the tissues of the stomach will be found affected, and unable to perform its proper functions with due energy; and the bile is so often diseased that some have thought the unpleasant sore effect always owing to derangement in the functions of this viscus. The emetico-cathartic is attended invariably with marked benefit. In pains of calomel in teaspoonfuls of spruce should be given in the commencement, and after this the calomel should be diminished to one grain, to be given two or three times in the day, and the

Ipecac, or Tartrized Antimony, if it should be required, to what are called diaphoretic doses, that is, such doses as will keep up a slight nausea at the stomach which nausea, by diminishing the activity of the circulation and drawing it as it were from the periphery toward the center, tends to reduce the hyperæmia in the affected vessels, and to remove the force by which they are distended. If the constitution should be prostrated, the nursing is established, its specific action in the system, which, as we have seen, is incompatible with the one previously existing. In children minute doses of calomel and Ipecac are particularly serviceable, especially when preceded by an emetic, which should never be omitted. If the inflammation be intense and hard to overcome by the before-mentioned means, incisions into the parts will be proper and beneficial. In this case when there has been no pus formed they can only act by exciting a new action in the parts by the stimulus of the knife; but this will be more effectually accomplished by a number of small incisions; but when the inflammation has run on so long as to occasion suppuration and the breaking up

of the cellular membrane, they will be more beneficial in giving vent to the pus; this pus being mixed up with shreds of cellular membrane, can be better discharged through one large incision than many small ones. This large incision should be made as soon as the pus is ascertained to have been formed, for it at once puts a stop to its further diffusion, which would otherwise certainly take place. During all this treatment the diet should be of the most simple, unirritating quality, and of quantity barely sufficient to prevent the too great depression of the powers of life.

In cases attacking weak and debilitated individuals, those whose habits have been long depraved, those who have been laboring under derangements in the digestive organs is extremely apt to assume from the first a typhoid type, and the suppuration or dissection has often been, to become gangrenous. This constitutes the 3d variety of erysipelas which I would call

3d Gangrenous. The color of the part will be deeper; the cuticle fewer and filled with a dark, bloody looking, offensive fluid. There soon [illegible] very

leaving sinuses the walls of which are covered with an ill-conditioned pus emitting an extremely offensive odour. This sloughing extends through the cellular membrane and muscles, even down to the bone, unless arrested in time. The system is prostrated; the pulse rapid and feeble, the tongue covered with a dark coat, and, in short, there are present all those symptoms which characterize a typhoid condition of the system.

Treatment. In as much as the symptoms are the antipodes of those occurring in the preceding varieties, the treatment must be opposite. Tonics and stimulants are here required, and the constitution must be sustained by nourishing, yet easily digested aliments. Severe irritation must be allayed by full doses of opium, and the nervous energy augmented by ammonia, camphor, wine, bark, sulphate of quinine, the mineral acids, and other such agents which may be at hand. The patient should be allowed the free use of London porter, which is at the same time tonic, sedative and nutritious. External applications should not be neglected, and of these the best are cloths wrung

out of a solution of Chloride of soda laid lightly over the part, Hydrocyanic acid, and the carrot poultice. The bowels should be kept clear by an occasional mild aperient, but the accumulation of thin secretions together with the articles taken into the stomach as food, may exercise a noxious influence there.

Edematous erysipelas always attacks an individual of a broken down constitution - having a hydropic diathesis. It attacks more gradually, the swelling being more spreading and diffuse. The colour is lighter, the light color of the watery fluid being seen through the inflamed skin. The skin is tender to acute; the pulse is soft and frequent. The constitution having been much deranged and debilitated, the patient almost generally, sinks, soon, into fatal prostration.

Treatment. The powers of the system must be sustained, if possible, by tonics, stimulants and a mild, nutritious diet. The latter would, probably, be found useful in sustaining the distended skin, even if it would not, from the complete prostration of the vital powers, produce the absorption of the effused serum by-

means of its continued pressure. Puncturation should not be practiced to discharge the serum, however large the quantity, for it will almost certainly produce gangrene, under the influence of which the patient will soon sink. The diagnosis is extremely unfavorable, for it is very rarely the case that recovery takes place.

The name Erratic is used give to that Erysipelas which manifests a disposition to wander from place to place, sometimes creeping slowly over the surface, the part first attacked assuming a healthy state in its rear; sometimes leaving the surface entirely, and falling upon some internal organ. If this organ should be the stomach, symptoms of gastric irritation immediately present themselves, such as nausea, & vomiting; pain and tenderness on pressure; inability to retain ingesta; loathing of food; desire for cold drinks, &c. Should the brain be effected by the presence of erysipelas on the scalp, delirium and coma will quickly ensue.

Treatment. Either of the other varieties, except perhaps the gangrenous, may become erratic, and

consequently the treatment must vary according to circumstances. When simple, and wandering about on the surface, it must be attacked strongly by the local remedies recommended in simple erysipelas. Nitrate of silver drawn around over the inflamed part will frequently arrest it. The constitutional treatment is nearly the same as in simple erysipelas. When an internal organ is affected, blisters and other revellents should be applied either to the part first affected, or to some more convenient spot if practicable, in order that the nervous energy may be drawn away from the organ affected to this new excitement created in a part of less importance in the animal economy. At the same time you should attack the inflammation existing in the organ with such means as are necessary to check it. Anodynes may be given to allay irritation there.

~~The disease known as [illegible] is merely a form of the disease on the trunk, extending around it; it has a general [illegible] and its appearance of its pathology [illegible].~~

An
Essay
on
Infanticide;

Submitted to the examination
of the
Provost,
Trustees & Medical Faculty
of the
University of Maryland,
for
the degree of Doctor of Medicine,
by
J. Harris Taylor
of
Virginia
1836.

To

R. Dunglison M.D.—

Professor of Physic, Therapeutics
Materia Medica & Med. Jurisprudence,
in the University of Maryland—

The high order of whose talents
and industry has gained for him
the first rank in his profession, &
secured to him the most pro-
found esteem of a large and
enlightened Community— This
Essay is most respectfully inscri-
bed by his most obliged pupil
& humble Servt

the Author

Infanticide

The sense in which infanticide is usually and properly taken, is the criminal destruction of the foetus; or the infant after parturition —

Females to prevent the inordinate pain, experienced in delivery, or those who have been imprudent — or in an unprotected or unguarded moment, have submitted to the solicitations of an artful seducer, to prevent the purity of their reputation being stained, or its lustre darkened; have recourse to means, either to prevent the maturity of the foetus; or to sacrifice the infant after birth — to explain how this is executed; or to furnish such evidence as will lead to satisfactory conviction that such means have

been employed, will be the object of the following pages.

From the circumstances, that from conception there is an utter absence of all those signs which denote the existence of putrefaction, and the gradual increase of the volume of the embryo it may be safely inferred, that from conception the embryo is in possession of the vital principle — Consequently those agents, by which abortion is effected, act primarily in destroying the vitality of the foetus —

This vitality of the foetus, during the early stages of gestation, is exceedingly slight in degree or feeble; in this state very little violence is requisite to render it extinct —

This extinction is effected either directly by injuries communicated to the foetus or embryo,

through the anterior, posterior or lateral parts of the mother — inflicted by blows, falls &c; or indirectly by those substances, taken internally, violently affecting the general system, cause an interruption of the process of gestation and expulsion of the foetus or embryo —

In consequence of the attachments of the embryo to the uterus in the early stages of pregnancy not being exceedingly tenacious; it, not having attained sufficient size to effect those peculiar general changes in the constitution of the mother, or produce any remarkable distension of abdomen; it, separation from the uterus rarely attended with any material violence to the Mother, and it is exceedingly difficult to ascertain whether it has occurred or not —

Should such an abortion become the subj-

-cet of judicial inquiry; reliance will have to be placed exclusively on the circumstances of the case, to ascertain if the abortion has been criminally produced, nothing can be learned from the appearances of the foetus, observed on examination, by which we can ascertain the cause of its death —

When an abortion of the foetus occurs at the middle or near the termination of gestation, it can be with much less difficulty, and greater certainty decided that it has taken place — the hemorrhage which forthwith follows the expulsion of the foetus; the offensive character and blood and mucous appearance of the discharges from the vagina — with the relaxed state of the os uteri; the enlarged and brown coloured

areola of the nipple, and flaccidity of the stomach are characteristics sufficiently evident and strong to convince, that abortion has actually taken place —

From the appearances of a more mature foetus, noticed upon examination, nothing can be ascertained which will avail much, in arriving at a knowledge of its having been criminally destroyed; it will be necessary to institute inquiries into the circumstances of the case — if the female has been known to have been pregnant, and that pregnancy the result of illicit commerce; known to have used repeatedly; or applied for those medicines which will produce abortion; or if any of those medicines, are found in her possession, or

She can be convicted of having taken them, it may be justly concluded that her intention was criminal —

If the infant is found sacrificed, and becomes the subject of judicial investigation, the first object of inquiry is, has the infant been born alive? If born alive, by what means has it come to its death?

It is only by tracing the changes effected by circulation and respiration, that a knowledge of the child having been born alive can be ascertained —

From the numerous dissections of human foetuses, and those of inferior animals by Bichat, it is amply demonstrated that the arterial and venous blood of

a foetus is of a uniform colour – resembling the venous blood of an adult; Tourtray asserts that the chemical constitution of the blood of a foetus is different from that of a child, which has respired, the blood of the foetus being destitute of fibrous matter and phosphoric salts, which that of the infant contains; he also asserts that it is incapable of assuming a florid appearance when exposed to the influence of the atmosphere; from these appearances of the blood, it may be inferred that the infant has been born alive; from the pulmonary vessels being distended with blood, it is also to be inferred that the child has born alive –

From the changes which succeed respi-

in the pulmonary system, as the obliteration and final conversion of the ductus venosus into a compact and impervious chord, which in the fœtal state communicates between the umbilical vein and the inferior vena cava; also of the conversion of the ductus arteriosus into a compact and impervious chord, through which in the fœtal state the blood was transmitted from the pulmonary artery into the aorta; also the perfect closure of the foramen ovale, through which the blood was transmitted in the fœtal state, from the right auricle of the heart to the left; may be inferred that the infant was born alive.

From ecchymosis or discolouration of a part taking place from the infliction of a blow; as proved that the infant was

alive at the time of their inflation.

From the revolutions which succeed the commencement of respiration in the pulmonary system can be inferred the living existence of the infant after birth — the thorax in those who have never respired is seemingly compressed or flattened; the lungs are close and compact and have a dusky appearance; they are comparatively small and nearly destitute of blood; if separated from the chest and placed in water of the least specific gravity they will sink; according to M. Ploucquet, when their weight is compared with that of the body it is about as 1 to 64 or 70 —

Directly the reverse is observed in those

who have respired — their thorax is evidently augmented, much arched anteriorly, the lungs dilated, filling completely the lateral and posterior parts of the thorax, their colour is light and florid, the pulmonary vessels are distended with blood, their weight compared with that of the body is as 1 to 37 — their feel is elastic; crepitation is heard when they are incised, their dilatation depresses the diaphragm and makes it approximate more to a horizontal line; they slightly influence the position of the stomach and liver, the latter is considerably lessened, from the blood which in the foetal state circulated in it, now circulating in the lungs; they have the ca-

pacity of floating upon water, in consequence of the air inhaled in respiration never being completely eliminated —

It is to Galen that the medico-legal inquiries is indebted for the first notice of this property; from it the general conclusion necessarily follows; the child must have respired, and therefore must have been born alive.

The Ancients have appropriately named this the hydrostatic test —

In consequence of imperfect respiration, the lungs partially sink, when this occurs, the lungs must be divided and if any of the portions remain on the surface of the water, and are per-

fully sound, we may safely conclude that the child respired and was born alive.

Objections have been brought against the hydrostatic test, as not being accurate, in consequence of the lungs in an incipient state of putrefaction, also floating in water; the validity of these objections is quickly set aside, when it is recollected that when putrefaction takes place, the air generated will collect and form large bubbles at the surface of the lung; this air can be completely discharged by pressure, as an evidence of this, when the lung has been subjected to considerable pressure and placed in water it instantaneously

sinks; & if an internal portion of the lung is placed in water of the least specific gravity it will sink; putrified lungs have a dark greenish colour, and a very offensive odour.

Diseases are said to occur in the lungs which materially affect their specific gravity, these have been brought forward as objections to the hydrostatic test, but their occurrence in the lungs of a foetus is exceedingly problematical —

The means by which the child's death is caused, are classified by medical jurisprudence writers — by those of omission and commission —

Those of omission comprise those which prove destructive by the neglect of those precautions, which are requisite to be attended to immediately after the birth of the child.

Those of commission embrace all express act of violence intended to take life —

An

Inaugural Dissertation

On the inosculation, between the

arterial, and venous capillaries.

Addressed to the Provost,

Trustees, & Medical Faculty of

The University of Maryland,

for the Degree

of Doctor of Medicine

By Hezekiah Starr

of Baltimore City

March 1836.

The continuity of the arterial, and venous systems; has been admitted by almost every anatomist and physiologist, from the time of the illustrious Harvey, down to the present period.

The correctness of this position, however, has been called in question, with much plausibility, by Broussais, and others.

Authors in describing the arteries, represent them to meander through all the organs; deminishing as they ramify, into infinitely small vessels; to which, they apply the appellation, of capillaries: but Bichat, believes in the existence of a system of vessels, intermediate, between the attenuated arteries, and the commencement of the veins; denominated by him, capillaries also. These vessels he conceives; to be of great tenuity, their structure probably different, from the structure of the arteries and veins, and modified differently

in each organ, or tissue, partaking of the nature of the part into whose structure they ramify; to this fancied system of vessels, he attaches essential importance; not only in carrying on those complex and inscrutable operations, necessary to the sustenance of the individual; but, in inducing by irregularity of action, certain changes of function and texture, denominated disease. Here, he presumes the blood to circulate by a kind of oscillatory, or insensible vibration of the capillary walls. An observance of the animal organism, strongly militates against the existence of this distinct order of vessels; for, if we admit, that such a system of vessels does exist, we are at once admitting the whole organization, to be nothing but a congeries of delicate ~~arteries~~ blood vessels. Meckel contradicts this in toto; he remarks, "it is not true in this respect, that is of Nutrition, that the organized body, should be considered

simply as an assemblage of vessels". To enter into a disquisition, respecting the accuracy of Bichat's statements, would be useless; the separate, and distinct system of tubes, spoken of by him, is now generally allowed not to exist, and when physiologists speak of capillaries; they wish to be understood, as speaking, either of the extremely minute branches of the arteries, or the equally minute radicles of the veins. The properties of structure, and vital endowments, of these terminal branches, are considered to be somewhat different, from the larger trunks; whether, this be true or not, it is not my intention to discuss, in this dissertation; but, simply to endeavour to show, the vital impossibility, of all the arterial terminations inosculating, with the venous radicles.

When we attentively observe the phenomena of nutrition, we are convinced, that the human organization is daily undergoing

constant composition, and decomposition; we see new products thrown out, and old products taken up; we see humours of large size form, and we see them after a short space of time, totally disappear; during this observation; it is natural, that the questions, how can these substances be deposited? there must be some channel for them to escape from the vessels? would present themselves. Again, when we take into consideration, the composition of the blood, when we reflect upon its use, upon its indispensable presence; in order to afford to every organ, those particular elements, of which it is aggregated, we arrive at this conclusion. Since the animal structure, is not compounded of an infinity of delicate blood vessels, as will appear, by what has been previously said; there must be space, in which no blood vessels exist, and that in order; for the growth, and preservation of

the body to be effected, every particle of blood, has to come in contact, with every atom of animal matter. This could not undoubtedly take place, if the blood performed a continuous round of circulation, within the parieties of the circulating vessels.

Dr Alison on this subject remarks. "Although the existence of arterial branches terminating in exhalent surfaces, ~~have not been~~ in secreting organs, or in the solid textures, have not been proved, and although the observation of the actual escape of particles of blood, from the circulating vessels, and their application to any of the animal textures, has been described by very few, microscopical observers, and may be held liable to fallacy, yet, the following observations (in effect the same as have been stated above) leave no room for doubt, that portions of the circulating blood, are continually applied to the formation

and support of the solids, and other fluids of the body, and that, in so far as these are dependent on such supplies, they receive them from the blood".*

Meckel on this point says. "The vascular system contains the fluid of common nutrition, carries it to all the organs, and sends it into all." Meaning, that the fluid actually escapes from these vessels, for he propounds the following interrogations. How does this fluid escape from its cavity? How does it penetrate into them?†

Majendie on this topic, observes. "The blood itself, appears to be poured out into several of the organs, and to fill up the cellular tissue, that forms their parenchyma."‡ He adduces, as an evidence of the truth of the position, the familiar example of madder; it is well known,

*Alison's Physiol, p. 63. Lon 1833

†Meckel's Gen Anat. Vol 1, p. 101. § 75. New York 1832.

‡Majendie's Physiol. p 356. Trans. Revere. Bal 1822.

that this substance, when taken into the stomach, passes into the torrent of the circulation, is deposited in the osseous tissue, tinging it of an uniform red colour. Another evidence is to be found, in the instances of the Nitrate of Silver, appearing on the skin, in the form of the Proto Oxide; and of Mercury, being detected by the presence of Gold, in the cutaneous transpiration.

I might go on, and quote volumes, in support of this position; I deem it altogether superflous, the thing is so evident, as scarcely to admit of a doubt. Richerand, Broussais, Jackson, Doellinger, Willbrand, and a host of others, entertain the same opinion.

Professor Dunglison, differs from the generality of writers, on this subject. In his inimitable work on Physiology, the following remarks have place. "The anatomical description of the capillaries will have sufficiently shown, that the notions, entertained by the earlier

physiologists, of an intermediate substance existing between the arterial and venous radicles, is devoid of foundation, and that a direct communication exists between them. This being the fact, all the hypotheses, at one time entertained regarding the effusion of the arterial blood into the cells of a parenchyma, when it was taken up by the veins, are necessarily nugatory, and unworthy of farther observations."* With due deference to the Dr's opinion; I may state, that the fact of a direct communication, existing between the arterial, and venous capillaries; is not well supported, as I will hereafter show; and if it were possible to prove by positive experiment, the direct communication, between the arterial, and venous capillaries; that, most assuredly, would not in the least render nugatory, the doctrine of sanguineous extravasation;

*Dunglison's Physiology, Vol ii. p. 144. Phil 1832.

for, it has been seen, that it is absolutely essential for the nutritive acts of the economy to go on; and for the elaboration of those animal proximates; which cannot, by the most accurate analysis, be detected in the vital fluid; for the blood, or some of its constituents, to come in collision, with the fixed animal matter; when the vital attractions, constituting the characteristics of nutrition, will be consummated. They who admit the correctness, of the doctrine of assimilation, are irresistibly compelled, to come into the opinion; or rather, the fact, of sanguineous extravasation. It would seem, the almost universal supposition, of the connection, between the extreme ramuscula of the capillary arteries, and incipient veins; led Medical Philosophers to deny the possibility of the fluids, circulating, in consequence of the affinity, existing between the components of the blood, and the molecules of the tissue, in the interstices existing therein.

That some of the larger arteries and veins, directly anastomoze; is a fact, which authority the most respectable, will not permit us to call in question; admitted as far as my observations extend, by almost every supporter of the non-direct doctrine, That vessels relate however, only to the ultimate branches, now, it may be asked, what evidence have we of their communication? not injections surely, our finest injections, cannot be made to traverse them, not by inspection; the powers of the naked eye, cannot perceive them, not by the aid of the wonder revealing Microscope; its creative power, cannot bring them into existence. Says, Dr Dunglison. The investigations of the phenomena of the circulation has exhibited the mode in which the arterial blood is distributed over the body, in minute vessels, not appreciable by the naked eye, or even with the Microscope, but so numerous, that it is impossible for the finest pointed instrument to be forced

through the skin, without penetrating one and perhaps several."*

Seeing then, by the above quotation, that the ultimate arterial capillaries, cannot be distinguished by the aid of the Microscope, their direct juncture with the capillary veins, certainly is presumtive. Independently of deductions, drawn from an investigation, of the organic, or nutritive acts of the system; an appeal to the structure of animals, low in the zoological scale, will incontestibly establish the fact of sanguineous extravasation; beyond the possibility of refutation. In the simple monad, the infusoria, the polypii, and mollusca, traces of vessels cannot be found; except a few, radiating from the digestive canal, towards the periphery; the fluids pass from the alimentary tube, into the parenchymatous arrangement of their tissue; simple and homogeneous as it is, and returns again to a vascular receptacle, without the aid of vessels. Brousais, says. "The

*Dunglison's Physiol. Vol ii. pa 165. Phila 1832.

vessels are very short, and we see them soon after they arise from the great vessel of deposite, pour out their fluids into this living matter, which may be compared to that of the polypus, and which forms, I repeat it, the greater part of the bulk of the animal".* As we ascend the scale of animate creation, the animal structure, becomes more, and more complex. A single heart is found in the mollusca; but even here, the vessels are not numerous, the simple homogeneous, gelatinous, or albuminous matter, forms the greater proportion of the animal; the phosphate of lime, composing their external covering, is formed without the aid of vessels; the polypus also, aggregates its coral dwelling in the same manner. In insects, the vascular system has a greater extent, here again, it is limited, the animal matter not vascular, still exists in a large proportion. The number of vessels increase, until we arrive at man, placed at

* Bronfais Phys, Trans Bell & Roche p. 374. Phil 1828

the head, of the class mammalia. A further illustration of this point, is to be found in the vegetable kingdom; there no vessels are found, to convey the nutritive elements from one extremity of the plant, to the other; vegetable products, such as fruit, excrescences &c, are formed without the assistance of vessels, to convey in unbroken channels, their fluids, from place, to place. Thus, if the shell of the molusces, the coral of the polypus, and vegetable productions, can be formed without vessels; we may say, a priori, that bone, cartilage or muscular fibre, can be elaborated without such aid. In view of the above facts, it will appear, that the premises laid down by those, who deny sanguineous extravasation, are by no means established, and consequently, the conclusions deduced therefrom, are not tenable.

Having seen the impossibility of the whole of the system, being composed of a reticulated series of organized tubes, as is contended for by Bichat; and having established the fact of

the fluids being poured out, between the molecular arrangement, or parenchyma of the tissues; we are now prepared to consider the interrogations; How can these substances be deposited? Where must be some channels for their escape?

The supporters of the continuity of the two sets of vessels, conceiving the utter impracticability for the function of assimilation to be carried on, with such a disposition of parts, to overcome the difficulty, and at the same time, cling to their preconceived opinion; imagined lateral pores to exist in the sides of the capillary arteries and veins, through which, the blood, by a kind of vital action, was allowed to pass. Richerand, who advocated this idea of porosity, thus expresses himself. "They are not," (says he) "openings common to all matter," that is, the blood does not exude through them, in the same manner as bile, transpires through the gall bladder devoid of vitality. "Each of them," he continues; "may be considered as an orifice, sensible and

contractile;"* in other words, perfectly organized.

A single glance will show, the purely hypothetical character of this doctrine of lateral pores, hypothetical; because it cannot be demonstrated by any means of investigation, which science in its present condition, can afford us. In fact, every thing connected with the action of organs, beyond the unassisted, or assisted view, must be hypothetical. This subject then, not being a matter of fact, but a matter of reason, let us put it to the test of reason.

Presuming for the sake of argument, the continuity of these sets of delicate cylinders, pierced at the point, where one, is supposed to inosculate with the other, with lateral pores; it will be exceedingly difficult, to form any conception, how all of the blood will stop on a level with the first series of openings; pass through, and not suffer itself to go into the veins; or, pass out of their foramina. Or,

* Richerands Phys, p. 205. Phila 1816.

how the blood, after having ~~to~~ escaped ~~from~~ from the first set of outlets, will pass into the veins, through their openings. Now, certainly at least one half or more of the blood, will move forwards directly into the vein, without paping out of the arterial capillary pores; an artery or a vein, is known always to accomodate its calibre, to the quantum of fluid circulating in it at the time, the vein will be full; then, by what law of Hydrostatics, will the extruded arterial blood, which has become venous, pass into the veins, its natural channel! It is a law of Mechanicks, that two bodies cannot exist together in the same place, that where one body is, another cannot be. Which is to say, fluids cannot pass outwards and inwards, at the same time, through the same openings; yet this ~~have~~ must necessarily ~~to~~ take place, if the doctrine of lateral pores be true. To the above, perhaps it will be answered, that, when the blood arrives at the point, where openings exist, the portion of the tube below will

contract; and thus prevent any of the fluid from flowing into the vein. If this objection be seriously urged, the doctrine of non-continuation, will be at once conceded; because, the circulation is incessantly going on, the contraction would last as long as life, which would in effect be the same thing, as if they were not actually joined together. A stronger objection still, to this doctrine, is found upon the relations admitted by every physiologist to obtain, between the size of the red globules of the blood, and the vessels themselves.

When describing the arteries, the generality Anatomists and Physiologists state, that the arteries after ramifying into an infinity of tubuli, penetrate into the mazes of the structure, and, by becoming identified with the veins.

Of infinity, we can form no adequate conception, and it may be safely laid down as an axiom, as firmly established as any in Medical Science, that all of the ultimate arterial capillaries, are not infinitely small; for this

reason. Every microscopical observer has spoken of the red globules, their size, figure &c; they can be seen by a magnifier of no extraordinary power: now, it will be clear, if the red globules can be seen, and even measured, they must be finite, if they are certainly limited in their dimensions; that is, they are not infinitely small, obedient to their own nature; there will be a mathematical impossibility for them, even to circulate through viaducts, attenuated, ad infinitum, much less pass out of their sides, by lateral pores. But, it has been said, however, by some, that the blood globules are broken down by a kind of "vital action", and thus permitted to pass through the openings. What is there in the endowments of the vessel itself, capable of crushing the globule? Is there any power in the vessels, which can decompose, which can resolve the globules into simple elements? Undoubtedly, no such power is known. Can these globules react upon themselves,

and thus be changed into their ultimate particles.

This is in collision with our knowledge of the laws of affinity; globules similarly constituted, cannot act upon each other, without the intervention of a third agent, to destroy the balance of their reciprocal attractions. Certainly it must be a "a vital power", with whose manifestations we are ignorant, that can be invoked to preside over the action, of these capillary foramina. The term "vital power", too often becomes the Alexandrian sword, when a physiological knot is presented to be unravelled, the knot is cut, and all further labour, and investigation ceased.

From the above considerations, the true, and legitimate inference, to be drawn is, that the hypothesis of lateral pores cannot be sustained, when we examine the question minutely, and relatively; and that, when applied to the touch stone of sound induction, entirely falls to the ground. The notion of parietal openings, not bearing examination,

we must seek for some other mode, by which the fluids escape from their vascular receptacles. To examine more particularly, the evidence upon which the ~~two sets~~ continuity of the two sets of vessels, is founded, would be a piece of supererrogation; as it appears, we have no satisfactory procedure, for ascertaining the fact. A few observations on injections, and microscopical observations, in relations to those vessels whose size, will permit, thus to come our cognizance, will not be out of place. Alison, Bostock, Mechle, Majendie, Richerand, and others, support the theory of uninterruption by no other appeal, than to injections, and Microscopical investigations. ~~its~~ to injections, all know the fallacy attendant upon their use, to settle physiological questions. The experimenter, having the powers of his intellect, concentrated on a favourite theory, it is plausible to suppose, that he would unconsciously direct his experiments towards its elucidation; and accordingly, he makes them

bend to the theory in question. He urges on his tenuous liquid; with prodigious force, he fills the vessels; makes the examination, and seeing the fluid occupying a ~~large~~ great number of vessels, immediately announces the fact, of the fluid, having passed through all of the capillary arteries, into the capillary veins; without, however, giving us any criteria, for distinguishing the one, from the other, and probably in the hurry of the moment, forgot to examine the surrounding parts, with a view of discovering the possibility of extravasation. Whilst on the other hand, individuals entertaining a contrary opinion, deny the fact of injections passing from one series of tubes, to the other, describing at the same time, their mode of procedure, in order to invite others, to test, the accuracy of their statements. A more convincing proof of the fallacy of injections cannot be found, than, in that celebrated altercation respecting the question: Do the veins

absorb? in which, the famous Hunters, and the elder Monro, took conspicuous stations. They, who, entertained the belief of venous absorption, brought forward the arguments, of injections being forced from the artery, into the vein. Dr. Bostock observes. "The most skillful of that period, generally admitted this to be the case". Those Anatomists who did not believe the doctrine of venous absorption, among whom, were the most accomplished and able men of their age; the Hunters, Hewson, and Monro, carefully repeated the experiments of their opponents, and by the greatest care, with regard to every circumstance, that could influence the experiment, denied the truth of the results, obtained by the opposite party. The same remarks are applicable to microscopical discoveries, the discrepant statements, made by different persons, of the size, and figure of the blood globules, of the arrangement of the

primitive muscular fibres, will afford good examples of their utility. Every theorist, however absurd, his views may be, appeals to the Microscope or injections, in support of them. Amid all this contrariety of opinion, based upon the same experiments, What are we to believe? What can we believe? On these subjects more might be said, the brief space allotted, will not allow me to enlarge further, therefore: I will recur to the questions propounded.

From what has been previously remarked, it will appear, that the distinct capillary system of Bichat, does not exist, that the proof in favour of the inosculation, between the arterial, and venous capillaries, is unsatisfactory, and that, the doctrine of lateral opinings; is repugnant to our ideas of relation.

From the observations of several authors; we are led to the opinion, that what is commonly understood to be the capillary system, is simply the organic motions of the

blood, in the molecular interstices of the tissues. Microscopical observers have remarked, in the transparent parts of animals, the blood flowing in every direction, retrograde and laterally; in obedience to irritants applied, where a current was not, one could be made by a gentle irritation, clearly demonstrating the circulation, without vessels. If Bichat understood by distinct capillary circulation, this molecular movement, he certainly was right.

Broussais, Jackson, and Bertin, are fully of the above opinion. The remarks of Dr. Jackson on this point, are apposite. "From the results of Microscopical examinations," (says he) little doubt rests on my mind, that a large proportion of what is regarded as capillary circulation, is not in fact performed by vessels. On the contrary, the blood circulates out of vessels, in currents which are established in the globules, and interstices of which, the ultimate structure exists." He observes further. "While examining the circulation in

diaphanous tissues, we have the ocular demonstration of this fact. The currents flow in every direction; I have seen currents of globules commence, where none existed, and by the application of a mechanical irritant, I have seen the whole tissue, become a mass of moving globules, pursuing every course, with great diversity of velocity. Dutrochet observed the same thing in the circulation of the salamander."* To this circulation Dr. Jackson, applys the term "Molecular". ~~Summing of the blood facts and relations, then~~ This, undoubtedly affords, an additional evidence, that, the circulation of the blood is not confined to closed vessels. In view of the above facts, and relations then, the opinion we are almost intuitively led to adopt, is this; that the arteries after penetrating into the recesses of the tissues, gradually become smaller, and smaller, until they arrive at their ultimate degree of tenuity,

* Jackson's Ins of Med. p. 23 & seq.

when the elastic coat is no longer to be found, it and the other tunics, becoming changed into their primitive arrangement; the cellular tissue, which imperceptibly mingles, with the inter-molecular cellular substance.

Bronsais opinion is, that the arteries "terminate abruptly." Dr. Geddings is also of the same opinion, who, in his lectures, compares the arteries and veins to two tubes, one placed on either side of an ordinary piece of sponge; if fluid be poured in one tube, it will percolate through the sponge, which he says represents the parenchymatous arrangement, and thus pass into the other tube. At the point where the tunics of the capillary pass into the elementary tissue, the blood is poured out molecule by molecule; its circulation or movement, then, being effected by laws impressed upon the primitive animal matter itself. These laws and none other than the ~~vital~~ vital endowments of those primitive atoms. It is in virtue of these properties inherent in the primary particles, that all the organs

and secretions are formed; these laws controlling and directing the chemical attractions, constitute the essential phenomena of nutrition, evidently, a chemico-vital action. What this vital power is, we are unable to say; the only manner in which we are enabled to form any idea of it, is by observing its manifestations: indeed, this all we can know of any thing, we know matter by its tangible and ocular qualities, we know mind by its operations; but, if we consider matter independently of its properties, and mind, or the ~~vital~~ vital principle, independently of their manifestations; our ignorance will be absolute. To inquire, then, into the abstract nature of this vital principle, or fundamental property of the living particles, would be, to go far beyond the sphere of legitimate, physiological inquiry; and, as our inquiry advanced, we would become more and more involved, in the inextricable mazes, which

nature, for a wise purpose, has thrown around her inscrutable mysteries.

It will not be difficult, by calling to our aid, chemico vital laws, to explain this atomic movement of the fluids. The blood being poured out, a particle of it is attracted, by a particle, of the fixed, animal matter, according to the agreement of the affinities obtaining between them; thus, fibrin attracts fibrin, albumen attracts albumen &c, and it is in consequence of the affinities existing between the elements of the blood, and the elements of the animal matter, that all of the proximate principles of animals are produced. We see different parts having different vital susceptibilities, when the elements of the blood are presented to parts thus impressed, a new order of affinities take place, giving rise to new compounds; by actions of this kind, the muscular fibre, the cellular tissue, the organization &c are aggregated,

the vital properties directing, and controulling, the chemical affinities of the elementary substances.

When I use the term, different vital susceptibilities; I must not be understood to mean, different vital powers, but simply to express the relation of quantity, not of quality. The vital susceptibility of the mucous and serous tissues, is greater than that of the muscular fibre; and muscular fibre, greater than that of the osseous tissue. In the first, vital affinities almost annihilate the chemical laws; whereas, in the last, we see more evidences of the play of definite chemical attractions.

In the above opinion I am borne out by the remarks of Dr. Packson, they follow. "The capillary or Molecular circulation, is the principal agent, concerned in the organic actions, and most of the vital phenomena. In it occurs the molecular or atomic movements, by which the vital actions, sanguinification, nutrition, calorification, secretion &c are performed."* This doctrine is also advocated

* Packson's Institutes p. 98.

by the celebrated Bronfais, who observes. "Then it appears to me, that the animal, primitive organic matter, not vascular, is much more abundant in our economy, than is commonly believed. I think to it are intrusted the duties of assimilation, composition, decomposition, secretion and the formation of humours, the like of which are not found circulating fluids; in a word every thing that concerns vital or organic Chemistry." *

To pursue this subject further, would be to enter into a disquisition on nutrition, which is not my intention to do. However, in conclusion I may remark, that it is highly probable, when the endowments of these primary molecules, become altered, either by intrinsic, or extrinsic deliferous agencies, a succession of affinities are developed, the result of which, is the appearance of new compounds, or in other words, changes of structure, or modified nutrition, made manifest by the appearance of the ordinary

* Bronfais Phys, p. 377. Phil 1828

train of febrile phenomena. Pachson, Bronssais and Berlin, seem to incline to this view. Dr Southwood Smith, refers the commencement of fever, first, to an impression made upon the nervous system; secondly to an irritative action of the sanguiferous system which certainly become affected, by the changes induced ~~by the~~ in the ultimate atoms, by the impression, first made upon the nerves.

An
Essay on the

Pathology of Tubercles.

Submitted to the Examination of the
Provost, Trustees, and
Medical Faculty,
of the
University of Maryland,
for the

Degree of Doctor of Medicine,

by

John C. Jenifer
of
Virginia.

1836

To
Dr William Platen.
by his friend and Pupil
John L Jennifer.

On the Pathology of Tubercles

In attempting the Pathology of tubercular deposi-
tions, the extensive speculations and various
theories of different Authors, suppose the
possibility of presenting any thing more instruc-
or novel than a mere compilation of the various
views and an inquiry into the respective merits
of the most prominent Pathologists of the pre-
day; upon this subject- like many other Pa-
thological inquiries have been implicated with
speculations, theory upon theory has alternately
risen and sunk again into insignificance, and
the anxious zeal of the Medical world have
only left to their successors the limited pro-
vince of compilation and criticism, and a
modern an insufficient- in the career, indulged
in the sentiment- and disappointed perhaps
of an Alexander may exclaim with the
Hero of Antiquity, there is no thing left to
conquer, and notwithstanding the hope that
even mitigate perseverance may attach- accom-
plish what unfavourable circumstances
have for a time denied, the mind shrinks from
the difficulty of the task, The path is arduous
though the tract is beaten.

In taking a superficial view of the different maladies to which Mankind are subject, we repeatedly find that the most fatal effects may be traced back to causes the origin of which was in itself comparitively trivial and a better illustration of this simple fact cannot be given than by an allusion to that Pathological condition which I have proposed to make the subject of my dissertation, Here we see that the trivial effects of a common Catarrh may successively progress through different degrees of intensity, until it may finally reach its acme in that morbid condition of the Lungs denominated Tubercular Catarrh has been mentioned among an innumerable variety of the primary diseases, as one of the predisposing causes to the formation and development of the tubercles in the cellular tissue of the Lungs. This disease in its most simple and primary form consists of an inflammation of the Schneiderian membrane of the nose, and which while confined to this organ and its appendages

constitutes an entirely unimportant disease to which the epithet of croup has been attached When however it extends further and traverses the trachea, reaching and differing those throughout the whole mucous membrane lining the Bronchial tubes and air cells of the Lungs, it assumes the aspect of a much more serious complaint Then attaching the whole course of the Bronchial tubes through their entire ramifications with a degree of intensity which it had not before assumed and running through its acute form it proceeds from a state of active inflammation to that of ulceration, and thus loosing its character of simplex it becomes the Chronic Bronchitis of authors, Then enveloping the Larynx and trachea throughout their course in a degree of inflammation so intense that it finally sloughs beneath them cartilages, and destroys them by a process of ulceration owing to which condition the organs of voice assume that singular modification so peculiar to Patients laboring under

Laringeal or Bronchial Phthisis. The secretions
vessels of the Bronchia at this period of the
disease pour out Pus which is freely expectorated
and the diagnostic marks of Bronchial Phthisis
are so many analogies to the symptoms which
occur in the development of tubercles in
the lungs, that without the repeated appli-
cation of the Stethoscope we find it exceedingly
difficult to pronounce a correct diagnosis
and are continually liable to confound the
two diseases. Pleurisy is another frequent cause
which predisposes to the formation and
development of tubercles and is more readily
allied to it than the former disease both in
consequence of the violence of the symptoms
which characterise it and its near access
in the immediate vicinity of the situation
which we are noticing. The seat of Pleurisy
is the Pleura or the envelope of the Lungs
and the disease as its name implies consists
in an inflammation of this membrane
A violent and fixed pain on one side
either the left or right and sometimes on both

both sides of the chest are symptoms indicative of its existance, togeather with a difficult pain-full and hurried respiration, which is aggravated by coughing or the slightest motion of the body, an inability to take a full inspiration without greatly increasing the existing pain-full sensation. Ase inflammation of the membrane covering the Lungs may be the occation of a variety of morbid developements, the most common of which however, are Adhesions and Effusions. Adhesion of the Pleura is a frequent and common occurrence in the termination of Pleuritis and is occationed by the internal surface of the Pleura secreting and becoming lubricated with a sero mucous discharge which (with it is the natural secretion of the membrane in a healthy state, modified by the Pathological condition of the organ or not I do not undertake to assert, Authors differ) This secretion is at first of moderate consistence afterwards becoming more so and finally assuming a degree of consistency sufficient

to obliterate the Pleura and Lung so firmly together that considerable force is required to separate the two surfaces and indeed the adhesions existing between the Pleura and corresponding portions of the Lung are sometimes so firm that the latter organ will be torn before it can be detached. These adhesions when they exist to a limited degree are not of themselves sufficient to give rise to any morbid developements which are likely to terminate in serious consequences. But when they exist beyond a certain degree, they operate with the animal economy mechanically by circumscribing and thus obstructing the play of the Lungs, and thus that equilibrium is destroyed, the maintainance of which is so necessary to secure the harmonious operations of the different organs which enter into the intricate mechanism of the Human Machine. The Lung is thus rendered inadequate to the performance of the several functions allotted to it, being exceedingly compressed, its motions are circumscribed

and cannot expand to that extent which is consistent with its healthy state and while it is thus incapacitated in performing the office the organ consequently becomes more and more inert and finally inspurious to air, during the which morbid condition it takes on a kind of adhesive inflammation giving rise to a peculiar kind of matter which eventually becomes consolidated and is recognized as Tubercular. Another frequent termination of Pleurisy is effusion, though not perhaps so common as the former. In this event serum is effused, and like adhesions this condition produces its deleterious effect upon the economy by obstructing the Lung in its efforts to expand in the performance of the offices of respiration. The Lung being suspended in fluid and consequently in a measure compressed by it has not play sufficient to avail itself of expansive power adequate to the regular performance of its functions and in this may produce the same results that are attributed to adhesions by inducing

induces inflammation and excites the secretory vessels to pour out their contents which seems to depend by disease is hardened into Tubercle. And in addition to these several processes may not Pleuritis finally end in the development of Tubercles by a progressive series of inflammation, first extending from the Pleura to the immediate envelope of the Lung and then to the Parenchymatous substance itself envelopeing the whole in one continuous mass of inflammation, and each membrane becoming successively affected by being in the immediate vicinity of the one previously diseased, or may not that sympathy, which we know to exist so extensively throughout the whole animal economy be sufficiently strong between the Pleura Parenchymatous structure and the Pleura, to give rise to a morbid condition which may eventually terminate in the formation of Tubercles.

Pneumonia or Peripneumonia, approaches still nearer than either of the previous affections of the chest to that morbid state of the Lungs

To

Lung which Authors denominate tuberculare and I conceive this disease to be rather a termination of Bronchitis than an entire original affection, for both the peculiar texture of the Lung and the character of the disease warrant this conclusion, But let it be what it will, it envelopes the whole Parenchymatous structure of the organ in a State of acute and intense inflammation, The disease is generally ushered in by a chill accompanied with or followed by a dull heavy pain seated in some part of the Thorax, subsequently becoming more intense and acute. Respiration is from the beginning difficult and hurried, pain much aggravated by an attempt to take a full inspiration, and when the disease has progressed to some extent the efforts of respiration become still more laborious and are performed almost exclusively by the action of the diaphragm, occasioning an obstructed wheezing sound as if the air was forced by the united exertions of the diaphragm and the

Lungs through the contracted calaber of the Bronchial tubes. The pulse is hard full and frequent and the disease progresses from the acute until it reaches the chronic stage. In Pneumonia in the acute form the inflammatory action is principally confined to the cellular structure of the lung, which becomes engorged with a fluid resembling blood and serum mixed, and the morbid phenomena thus far effected may be the consequence of acute inflammation, but after having attained this the next step is into the chronic stage, here giving rise to a great diversity of morbid phenomena. Hepatization, infiltration and induration, successively, until it finally reaches its acme in the formation of one or more abscesses. Hepatization is the softening of the substance of the lungs resembling in appearance the conglomerated structure of the liver and when incised it is found to present a granulated appearance and effusing a seropurulent fluid. The substance of the Lungs when in a state of hepatization may

present either a yellow or red colour. Hepatization and suppuration are more advanced stages of the disease. The Lung still however presents a granulated structure when cut or broken but is more indurated and when incised a fluid is effused ~~of the~~ of pale consistency and in appearance more nearly allied to the former to pus, and gradually becoming more consistent until it assumes the stage of induration and here the morbid secretions becoming firm and possessing adherent power sufficient to agglutinate itself firmly to the cells of the air cells, forms a ready receptacle for the formation of tubercles. Authors have divided these morbid conditions of the structure of the Lung which they recognise by the denomination of tubercles into numerable varieties of which the Miliary variety is by far the most frequent the name of this species of tubercle is sufficiently indicative of its size and form they present the appearance of bright yellow or grey granulations generally opaque and

partially transparent - and not unfrequently wholly diaphanous and sometimes varying from a bright tint to a darker colour, assuming the darker colour in the advancement of age. Tuberculous formations of this discription are extremely numerous, occuring either isolated or congregated together in groups, their size sometimes when of long continuance varies from a millet seed to several times that size, and when occuring in large numbers upon the surface of the lungs they sometimes so enlarge it as to occasion very considerable displacement of the surrounding tissue. The crude is another species of tubercular formation and is ranked by authors as the second stage in comparison with the miliary or diaphanous discription. They vary in commencing either singly or in a number of points together and gradually progressing ultimately involving the entire parenchymatous substance of the lungs in one continuous mass of inflammation.

The gray infiltration of Morton is another variety, and when the deposition of tubercular matter has arrived at this point it has attained

attained its greatest degree of induration. This species occurs in masses of a bright smooth colour and is generally partially or wholly transparent and sufficiently indurated to present a fracture when compressed between the fingers. From this stage the Tubercular matter gradually softens until it has attained that variety generally denominated Le Latenoid infiltration. Here the Tubercular matter presents a semi fluid consistency somewhat resembling pus but more consistent. Here the acid principle of the matter having destroyed the surrounding cellular texture of the organ is found filling large cavities. Authors also speak of a third species of indurated Tubercle which is found existing in a distinct cartilaginous sack, this variety is of extremely rare occurrence if it does ever exist.

The cellular structure which of all other tissues affords by far the most ready material for the deposition of Tubercular matter possesses much more durability than any other which enters into the organization

of the human machine, and although extremely susceptible of this peculiar species of morbid development which no tissue can resist, is found the last to decay and is found remaining when every other has undergone disorganization, and left with scarce a remnant indicative of previous existance. When the secretion of tubercular matter occurs in the Lungs it necessarily involves the cellular structure of the organ and may in the commencement consist of pus or of other matter differing in its chemical as well as its physical properties. Here it insinuates itself into the blind extremities of the bronchial tubes throughout a great proportion and not unfrequently throughout the whole of the Lungs. Tubercles are frequently primary origin, and I believe they commence the [illegible] predisposition in by far the greater number of cases, for we see it transmitted from the to Son successively from generation to generation, occasionally it may omit a generation but in the succeeding one it will again appear

the same hereditary course, and it is from this peculiar nature of the Malady to become hereditary, that the development of Tubercles have been, and I believe erroneously too, identified with Scrofula, or considered to depend necessarily to depend upon a Scrofulous diathesis. That a Scrofulous diathesis may eminently contribute as a predisposing cause, to the accretion and development of tubercles in the Lungs, is a fact which I believe no one will presume to deny. But that this morbid condition of the Lungs cannot exist without a previously formed strumous habit, is an assertion which I conceive to be entirely gratuitous and unsupported either by argument or experience. This distortion of tubercles into Scrofula originated from the simple fact of its being hereditary and transmitted successively from generation to generation and because both Scrofula and tubercles equally possessed this peculiarity, ergo they must be identified. Now from the same topical

logical deductions we might demonstrate that
gout or Rheumatism or in short every one of the
Phlegmasia which the nosology of diseases embraces
which happened to attack Parent and Child
successively or which existed at the same time
that the Patient happened to be labouring under
a previously formed Strumous habit, was also
Scrofula. For do we not see gout or Rheumatism
as regularly and as successively as tubercles.
And do we not see gout and Rheumatism both
attacking Patients labouring under curvature
of the Spine or a malconformation of the
Chest or of the Thoracica. Yet without gout nor Rheu-
-matism nor of the Thoracica were we accused
of being dependent upon a Scrofulous diathesis
and why should the formation and development
of tubercles. For if the secretion of tubercular
matter was dependent exclusive upon
this morbid condition of the system, why
is it that we see it concentrated in the Lungs
more frequently than in any other organ.
The Spine is frequently most frequently the
seat of Scrofula, the joints and the organs

organs of vision are also frequently found similarly affected. The bones too sometimes yield to the influence of Scrofula. They lose their power of resisting muscular action, become soft and yielding and no longer presenting a point of resistance, bend under the contractile power of the Muscles. Yet we very seldom if ever see tubercles existing in the Bones, the Spine or the Joints, and certainly never in the eye.

Now different organs of the common frame have cellular tissue as well as the Lungs, though not to the same extent; and were the two diseases identical the organs of vision would be equally liable to become the seat of tubercles with the organs of respiration, again, the Liver and the Mucous Membrane lining the abdominal digestive apparatus are sometimes the seat of tubercles, yet no one has ever attributed the diseases to which those organs are liable to a Scrofulous character. And since tubercles can exist in one viscus without being complicated with a Pulmonary habit; is it not a reasonable deduction to

suppose they may in another.

"The formation of tubercles is dependent upon a peculiar kind of matter secreted by the of the mucous membrane lining the air cells of the lungs. This matter gradually becomes consolidated and when having attained this condition constitutes tubercle; and by another process the matter becomes soft and fluid is formed into Pus which possesing a sufficient acid quality to destroy the texture of the minute ramifications of the air tubes eliminates itself in the Bronchia and Trachia and this being expectorated leaves a cavity of greater or less dimentions in the substance of the Lungs. "The following is Professor Carswells description of tubercular matter "it says "consists of a pale yellow, or yellowish gray opaque, more or less firm substance the form, consistence and composition of which vary with the nature of the part in which it is formed and the period at which it is examined. This like descriptions generally is unsatisfactory and far from being concise, and the particular

form which tuberculous matter presents is said by the same Author to be entirely owing to accidental circumstances, assuming the form adapted to the part in which it happens to be secreted. Thus in the Parenchyma of the Lungs it assumes the rounded form corresponding to the shape of the blind extremities of the Bronchial tubes, and when it originates in the tubes themselves it also is adapted to the peculiar shape of the part. Tuberculous matter may not acquire its greatest degree of consistency for a considerable length of time after it begins to be secreted, and this consistency does not depend so much upon a natural disposition to become consolidated as upon the resistence of the part where it is found to exist. Thus when tuberculous matter is forming in the Lungs and the air cells become full and distended to their full extent and the matter continuing to accumulate it recoils upon itself and by its own pressure is formed into a firm compacted mass, and the "quo modo" in which this matter eventually becomes softened and fluid is differently accounted for

by different Pathologists to come a part that the softening process primarily commences in the centre and gradually extends to the circumference, until the whole mass finally attains a state of fluidity, those Pathologists who maintain this view, think that the tubercle being deposited in the midst of a matter favourable to this morbid condition of the tissue maintains the relative situation of a foreign body, and that the tubercle itself first becomes softened, and that the matter possessing sufficient acridity to corrode the surrounding texture and reduces it to a similar condition. Those who indulge in a contrary opinion state that the softening process proceeds from the circumference to the centre, think that the surrounding matter becoming soft affects the tubercle secondarily and the whole mass undergoing this important Pathological change is resolved into Pus, the acrid nature of which destroys the texture of the Lung by a process of ulceration and insinuating itself through the minute ramifications of the air tubes finds its way into the Bronchia and Trachea and this being expectorated leaves behind an abscess in the Lung more or less circumscribed and accompanied with the Hectic flush, the colliquative sweats and consequent emaciation constitute the last stage of Phthisis Pulmonalis.

3

An

Inaugural Dissertation

On Iodine

Addressed to the

Provost Trustees and Medical Faculty

of

The University of Maryland

for the Degree of

Doctor of Medicine by

James P. Allnutt.

of Maryland

1836

Iodine

Was discovered by M. Courtois a Manufacturer of Saltpetre at Paris in the year 1812. He observed that the residual liquor remaining after the preparation of Carbonate of soda, possessed the property of corroding metallic vessels, struck with this property, he was led to search into its cause, and on adding to it sulphuric acid, a dark coloured precipitate was thrown down, which on the application of heat, was converted into a beautiful violet coloured vapour, which induced him, to give some of it to M. Clement a celebrated French Chemist, who discovered it to be a new body, and described its leading properties before the Royal institute of France, in 1813, one year after it was first discovered by M. Courtois. This subject then was taken up by several other Chemists and some further discoveries were made.

Iodine Consists of soft, friable, opake scales, of a dark colour, and in appearance somewhat metallic, and like Oxygen and Chlorine is an electro negative. Its specific gravity is 4.9 as stated by Gay Lussac. Its taste is acrid and pungent, and odour is very similar to Chlorine. It is fused at temperature about 225°, and enters into ebullition at 347°

but at a much lower temperature, it is converted into vapour of a violet colour, which has given to it the name of Iodine, Ether and alcohol dissolves it readily, but water takes up only about 7000th part of its weight. Its solutions are generally of a dark colour, and gives a yellow stain to the skin, As Iodine acts energetically on the animal system as a poison, it is necessary that we should be acquainted with the manner of testing for it, for this purpose starch is generally used, it throws down a deep blue precipitate, and so delicate is the test, that when mixed with 45,000 times its weight of water, it may be detected, But the solution of starch must be cold, and the Iodine in a free state, when it is in combination with any saline substance, it may be rendered free by the addition of a little nitric acid

Iodine destroys vegetable colours though in a less degree than Chlorine, and possesses the property of uniting with the metallic, and non-metallic substances, with oxygen, and hydrogen, giving rise to compounds called Iodurets. Iodic and hydriodic acids. Iodine was first brought into notice as a remedy in 1819 by Dr Coindet of Geneva, In reflecting that the substances from which Iodine is obtained,

As the spunge, the fucus vesiculosus, and certain polipi, together with many other marine substances, are the best agents for discussing Goitre and other glandular swellings, he concluded that as they all contained Iodine this might be the active principle in despersing these indolent swellings, a supposition which was soon realized by experiance. Since this discovery Iodine has been used to the entire exclution of all the substances in which it is contained. Its action upon the animal system is very extensive, when given in very small doses, it acts as a tonic: gives tone to the stomach, and increasing the appetite, but when given in larger doses, it excites the action of the heart and arteries, and is the most powerfull stimulant of the lymphatics with which we are acquainted. It is said by Dr Coindet that when given for some length of time in appropriate doses, it is one of the most powerful emenagogues we possess. Piera also says, it increases the appetite, fattens the lean, and emaciates the corpulent, and directing its action particularly on the thyroid gland and the Uterus, it removes enlargements of the former and promotes scanty and relieves excessive menstruation. But these exagerated statements are not borne out

by the testimony of others, for if the secretions should return during the exhibition of the remedy, it is either from its action on the general system, than from any specific power which it has over the Uterus,

Iodine like other poisons in appropriate doses is a very valuable article of our Materia Medica, acting on the system as a gentle stimulant, but when given in over doses, it produces a series of alarming symptoms, as an accelerated pulse, palpitation, frequent cough, sleeplessness, loss of strength and emaciation, swelling and tremor of the inferior extremities, wasting of the mamma and testicles, and well authenticated Cases are related, where this remedy has been continued too long, these glands have been entirely annihilated

There are some patients that cannot take this medicine at all, without producing disagreeable nervous symptoms, and when used externally as an ointment for a long time, it diminishes the sensibility of the part. When these unpleasant symptoms take place Dr Condit recommends milk (he gives the preference to asses) warm bath, valerian, Rhus, Carb. Ammonia, preperations of Opium, and other Antispasmodics, at the same time Iodine must be stopt

But we must not let these symptoms frighten us from the use of this valuable remedy, because they have been produced by an improper exhibition of it, but should rather serve as a caution to us. Dr. Manson and Root have used Iodine and its preparations very extensively, without any bad Consequences following. Many French writers speak of it in a similar manner, and it is also very extensively used in our own country, with more or less success.

After speaking of the chemical and physical properties of Iodine, and its effects upon the general system, we shall next pass to the Consideration of it, as remedy in certain diseases. It is the most powerful solvent with which we are acquainted, reducing Bronchocele and scrofulous tumours with more certainty than any other article of the Materia Medica, which until the discovery of Iodine, were almost Considered incureable. Mankind as we have before observed, is indebted to Dr Coindet for the first introduction of this Article to the notice of Physicians, as a valuable medicinal agent. He applies an ointment made by intimately mixing ℥ij of Hydriodate of Potash with ℥i lard externally to the tumour, at the same time giving internally the tincture of Iodine. Dr Eberle also speaks

in very favourable terms of the preperation of Iodine, in diminishing these chronic enlargements, especialy those about the neck, and relates several cases which were entirely cured by the external application of Iodine, the only cases that he ever saw entirely cured. M. Lugol Physician to Hospital St Louis, has made researches into the utility of giving Iodine in scrofula, and after useing this medicine for a long time, and observing its great success, he concludes from all the facts he has collected, and researches he had made, that Iodine deserves to be considered the most efficacious remedy in scrofulous affections, since it has constantly arrested their progress, or at least exercised a salutary action in the treatment of all tuberocular tumours, even when it has not evidently effected their cure. He therfor believes that the introduction of this Remedy, is one of the most valuable acquesitions the healing art has made in modern times. It is however to be observed, that there is certain states of the system where Iodine cannot be applied with safty, as when the preternatural sensibility of the system, a tendency to irregular determinations, and the presence of internal local Congestion, prominent gastric or intestinal derangment, febril symtoms, general plethora, diarhea, a disposition

to hemorrhages, and an inflamed and an preternatural sensibility of the tumour; are decided contra indications to the employment of this article both internally and externally.

In chronic enlargements of the liver and spleen, so frequently met with in miasmatic districts, giving rise to an accumulation of water in the cavity of the peritoneum, and other chronic diseases, dependent upon a sluggish state of the portal system, As all these diseases are only symptoms of the pathological state of the liver and spleen. this state must be removed, before any change can be made in the patients health; How is this to be done? It was formerly thought, it only could be accomplished by a long and continued course of mercury. But since the discovery of this valuable medicine, and its various preparations, we are frequently enabled to remove these chronic enlargements, without submitting our patients to the painful effects of a salivation. Dr Thompson of Louisiana has related six Cases which were entirely removed by the use of Iodine in enlargements of these glands Drs Eberle, Charlwright, and Brown, have given this remedy in similar Cases with success, And Dr Milligan relates two Cases which were entirely cured by Iodine.

after mercury has been used ineffectually.

Cases are related where cancerous ~~affections~~ diseases have disappeared under the use of Iodine, especially those of the neck of the Uterus, but I should be disposed to think much more of it as a remedy in nole me tangere and other kinds of Cancer attacking the skin. It has also been applied to that formidable disease well known by the name of Fungus Hematodes, and Professor Smith relates a case that disappeared under its use, it was applied in combination with mercurial plaister, at the same time attention was paid to the digestive organs, which no doubt comprised a very important part in the treatment of the disease.

Iodine has been lately brought forward as a valuable remedy in the treatment of gout by some of the French writers, and indeed they speak in very flattering terms of it. Dr Gendrin if I am not mistaken not, says that in every case in which he has resorted to its use, the pain and swelling have soon subsided. It is applied by friction in the form of an ointment; at the same time the tincture is given internally. It has also been used, and I think with more propriety, in the enlargement of joints remaining after

frequent attacks of gout, also in many other chronic diseases of the joints, as white swelling, hip disease, and rheumatism.

From the well known agency Iodine in the cure of scrofula, it has induced some to resort to it in that allmost hopeless disease, Phthisis Pulmonalis, and indeed cases are related, where the disease has been suspended by the use of this agent. The best way of using it is by inhaling the vapour, by which means it comes more directly in contact with the diseased part.

The preperations of Iodine in combination with mercury, are valuable remedys in the treatment of Cutaneous diseases, especially those of a chronic character. The ointment is commonly made by rubbing sixteen grains of the Deuto Iodide of mercury with an ounce and half of lard. This preperation is also a very valuable remedy for the cure of chronic venereal Ulcers.

M Ricord has shown, by a course of numerous experiments upon Ganglia, that after every thing else has failed, Iodine may still be resorted to with fair prospect of success, and reports several cases, to show where attempts ~~were made~~ to rupture

them did not succeed, and compression had no better effect, were entirely dissipated by applying to it, lint strips in the Tincture of Iodine, of the strength of one scruple to an ounce of water, the frequency of the application before the cure is effected, depends upon the thickness of the epidermis, Generally from six to ten times

Iodine has also been successfully used for the purpose of removing the thickning of the periosteum after the venereal disease, and the long continuance of mercury, The Tinct which is prefered by M Ricord, must be largely diluted with water, less it may cause too much irritation, say one part of the Tinct to ten or twelve of water at first, and gradually increase according to its effects.

In many of the diseases of the womb, Iodine has been resorted too with very good success. Besides the favourable statements which have been given by Drs Coindet and Prera in Amenorrhœa, Drs Jorden and Bell speak in nearly the same flattering manner, the former of these gentlemen gave Iodine in two Cases of six years standing both with entire success. Beside the Satisfactory evidence given by these gentlemen in Leworrhœa, we have also that of Dr Eberle, he says

Iodine

I have myself prescribed the Iodine in a number of Cases of Leucorrhœa, and although in a majority of instances, it has failed to do much good: Several Cases of long standing have entirely cured by its use. In a case which occured to me about six months ago, and which had continued in an aggravated form about ten years, the Iodine effected a cure, which I think will be permanent. The use of the remedy was continued in this case for nearly three months. And Dr. Thetford has lately reported a case of enlarged Uterus, from the development of tumors, which could be distinctly felt, by an examination per Vaginam, giving rise to Amenorrhœa, costiveness, and a difficulty in passing the urine, and other symptoms of deranged health, which under the use of the Tincture of Iodine entirely disappeared; the Uterus was restored to its former size, the menses reappeared, the patients appetite increased, and in fine, she was restored to perfect health. From these facts, and an almost innumerable number of ~~Cases~~ others, I am inclined to think it is one of the most valuable articles in the Materia Medicai. and shall continue to ~~look upon~~ consider it as such, until I am

corrected by experiment or well substantiated facts.

An Inaugural Dissertation

On Amputation

And The Circumstances which render the Performance of it Necessary

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Respectfully Submitted. To the Provost, Trustees, And Medical Faculty Of The

University Of Maryland

For The Degree of Doctor Of Medicine

By Benjamin William Woods

Of Maryland

March. 1836

Amputation

And The Circumstances which render the Performance of This Operation necessary

Definition — The operation of cutting away, Or lopping off, A superfluous part. This Term Is employed, To designate the operation by which A Member or a part of one, is removed; for the purpose of saving the life of the individual, or freeing him from The suffering and Inconvenience To which the limb subjects him

Those Circumstances which require This Operation. Amputation has been truly styled one of The most desperate resources of the surgeon. He is enabled in most every case, beside this Through The means furnished by his art, To restore the Diseased organs to health; but in those where There is, extensive injury, inflicted upon the living structure; or great depression of the powers of life; This Operation is resorted to, indispensably necessary, For the preservation, of the patients life.

It is consequently, a matter of much importance, To- termine ds, far as, practicable; Those cases which call for, This terrible expedient; and distinguish those, in which, the life of, the individual may be preserved; together with the use of The diseased, or injured member; without resorting to so terrible, an expedient

The improvements of modern Surgery, have it is true, tended much, to lessen the number of cases requiring amputation. Yet it cannot be denied that the imperfections of art, renders it necessary still to practise it in very many cases.

In the present state of science, all that can be done, in considering those cases which require Amputation is; to lay down some general principles. To with there will be many exceptions, in different cases and under different circumstances.

The indications, which require this operation may be considered fairly expressed in the following enumeration, If an Individual be affected with a disease, or injury of, a member, which in the present state of our knowledge, is incurable (Either by reason of a bad constitution, or unfavourable circumstances attending his situation) And which endangers his safety, or renders him a cripple for life Amputation, may under such circumstances, be Considered essentially requisite.

I shall now proceed to speak of some of these Conditions in detail.

1. Gangrene and Sphacelus. These were formerly looked upon, as the only conditions, which called for Amputation. It is certain, that in many cases, where Gangrene has progressed to, a considerable extent, This operation will not be required. There are many Surgeons of distinction, who have declared That Mortification alone can never call for Amputation. the system they assert to be capable, of liberating itself from the disease and repairing, the injuries inflicted by it; And if system be not competent to do this, the performance of Amputation, only

subjects the patient to painful suffering, without rendering him an equivalent benefit. They affirm that when mortification is only in small degree, it is curable, and that when it has spread to a considerable extent, amputation cannot remove the cause of the malady, that the patient whether it be performed or not. But these assertions are so contrary to facts, and the experience of every impartial surgeon as to be unworthy of refutation. There are many cases of Gangrene and Sphacelus in which amputation constitutes the only means of safety for the patient, and consequently is indispensably necessary.

When Mortification is of small extent; or when it does not involve important blood-vessels and nerves, essential to the Vitality of the part, the operation is not called for. Nature properly aided by the skilful surgeon is fully competent to effect a cure, Without a sacrifice of the member. Should the Constitution of the patient However, be feeble and the recuperative powers of the system, unable to repair the injuries so rapidly extending There, an opportune removal of the member by amputation, is indispensably proper, as the safety of the individual can alone be secured thereby. The cause by which the mortification is produced, must be allowed to have some influence in deciding upon the propriety of the operation. It was a long time, a settled axiom, that while the mortification progressed, the interference of the surgeon, was decidedly improper, and not until a distinct line of demarcation, between the living and dead parts was established; did it become prudent to practise the operation, This rule was inculcated by Pott, and others and continues yet, to have many warm

supporters in surgeons of acknowledged Respectability;
The vast experience of the best surgeons, both military
and hospital, warrants me in saying, that it should
be cautiously followed. Should the gangrene arise
from obliteration or opification of some important blood vessel
or; from an impaired state of the vital energies; the per-
-formance of amputation can of course be of no benefit to
the patient, as it will be unable to remove the cause of
the malady. It will only subject the patient to great pain
and suffering, leaving him still liable to a return and
continuance of the disease. The removal of the limb
while the constitution is in fault will only be to take
away an effect, the cause still continuing to operate.
In such cases it is only necessary, for the surgeon, to institute
such general and local treatment, as will be best adapted
to the disordered state of the organic operations, endeavouring
thereby to invigorate the reduperative powers of the system
to that degree, which will enable him effectually to arrest
the ravages of the disease. While the mortification advances
he should banish all thoughts of operating, and should quietly
wait until the establishment of a line of demarcation between
the dead and living parts; shows him that the powers of life
have revived. The operation is now called for to remove a
source of irritation calculated, to wear down the vital
energies of the system should the cure be left to the tardy
process, of spontaneous seperation. The performance of this
operation may also be necessary to prevent the deformity, which
is liable to result, when the part is left to the unassisted efforts
of nature. In the form of gangrene under consideration,
usually denomination idiopathic or constitutional; The
development of a line of demarcation between the dead
and living structures, is the signal for the performance of

The operation; it remains then to determine whether from the extent of the disease and parts involved; it be possible or impossible to preserve the limb without jeopardizing the life of the individual. If the soft parts, with important blood-vessels and nerves be deeply involved in the destruction and the bone denuded for a considerable extent; Then Amputation is indispensable. This operation will also be required when the mortification is not extensive; but where the vital energies are so feeble, as to be unable to throw off the dead parts.

In traumatic Gangrene of great extent, where the soft parts are largely concerned, and the destruction is great; whether produced by the injury or the diseased process; Amputation should be early performed, though the disease be still progressive. Ample experience has shown that in such cases, it will not be proper to wait the establishment of a line of seperation. It is in cases of this description that it has been necessary to deviate from the old rule above adverted to; interdicting the interference of the surgeon whilst the mortification is still extending. It is consequently highly important, as it regards the question of amputation, that a distinction should be established, between Idiopathic and traumatic gangrene, as the course to be pursued in the one case is, essentially different from that of the other.

B. Fractures. A simple fracture of an extremity, in itself can never for this operation; but should this accident be complicated with other serious injuries it may be proper to remove the limb. Compound and comminuted fractures together with extensive laceration of the soft parts, and injury of the most important blood-vessels and nerves; very frequently require this operation. In such cases however as Compound fractures, the necessity for amputation is not always in proportion to the serious nature of the accident; but depends often

upon other circumstances. When the patient is placed in a situation, to enjoy perfect repose; and is able to command the close attentions of the surgeon, and where the injury is not so extensive, as to have destroyed the principal vessels and nerves of the part his constitution being, one young and vigorous; it is always the duty of the surgeon, to attempt the preservation of the limb. On the other hand, should the accident occur on the field of battle, in a crowded ships, or the patient after its occurence be placed in a crowded hospital or ill ventilated apartment, where he will be unable to obtain the necessary accomodations and the assiduous attentions of the surgeon; the injury being one extensive in its character, under such circumstances the operation of Amputation would be practised immediately.
The situation of the surgeon is one of great responsibility, it requires the acute exercise of his powers of judgement, to decide when to sacrafice the limb to preserve life, and when to preserve both limb and life. I am disposed to think that in nearly all cases in private practice unless the constitution is previously broken down - an attempt to save the limb is proper

C. Dislocations. The simple Luxation or displacement of a bone unconnected with other injury, can never in itself justify a resort to amputation. There are however some cases in which there is such an extensive injury and laceration of structures about the joints, as to render the prompt removal of the limb, essential to the safety of the patient Almost the only cases of dislocation however, that call for this operation, is that variety in which there is a protusion of the bone through the surrounding parts denominated Compound dislocations. These cases are generally of such a formidable character, when they occur in any of the larger articulations, and

Give rise to such extensive constitutional irritation or alar=
=ming gangrene; as to speedily terminate the life of the
sufferer. As to the propriety or impropriety of amputating
In compound dislocations, much must depend upon the kind
of Articulation that recieves the injury, and the nature of the
parts concerned. Amputation can seldom be proper where
the injury is of limited extent and the joint small and
simple in character. But when the injury is inflicted upon
a large joint such as the knee, elbow, and ankle, the conse=
=quences involved are of a much more serious nature
In general if the head of the bone be merely protuded
without fracture or contusion, and if the soft parts, with
the important blood vessels and nerves are not extensively
lacerated and bruised; It will be proper to return the bone to
its place, enjoin rest, with the means calculated to obviate
inflammation and irritation. The operation under such
circumstances should not be performed, but an attempt
made to save the limb. Should Gangrene however super=
=vene, and the patient become extensively diseased, The op=
=eration should be immediately resorted to, or the mortif=
=ication will extend itself rapidly as to terminate the exist=
=ence of the patient before a line of demarcation can possibly
=be formed. In cases of a more serious character, where
the bones are fractured or violently contused, where the
principal arteries and nerves with the tendons and sur=
=rounding parts are destroyed or much lacerated, To attempt
=pt to save the limb would be only to hazard the life of the
individual; Inasmuch as the most judicious and well
directed treatment, will be unable to prevent the sup=
=ervention of tetanus, with extensive gangrene, running
speedily on to a fatal termination. Should these conseqen=
=ences not ensue, such a formidable injury will generally

give rise to such violent Constitutional disturbance, attended with extensive suppuration, caries and exfoliation of the bones; as will sooner or later destroy the life of the patient, if he be not rescued by a timely resort to amputation. It must however be acknowledged that many compound dislocations of a very serious character do well without this operation. The surgeon here, as in other cases involving great responsibility; must exercise his deliberate judgement and recollect that by attempting to save the limb in all cases, even the most desperate; he will much more frequently sacrafice lives! than he would limbs, by pursuing a medium course; which can alone be the proper one

D. Gunshot and other, lacerated and Contused Wounds of the, Extremities. Of all the accidents to which mankind are liable, none more frequently call for the operation of amputation than that class of injuries denominated Gunshot wounds; these together with other extensively lacerated and contused wounds deeply implicating the most important blood vessels and nerves. When produced by coming in contact, with some obtuse body - by the individual becoming entangled in machinery - or by splinters of wood as in naval actions - They give rise to consequences so serious as more frequently to require this operation than any other species of accidents. In such cases the soft parts are generally extensively bruised and torn - the muscles, vessels and nerves reduced to a kind of pulp - the bones crushed and comminuted - the Vital powers of the parts have received so great a shock that mortification speedily follows; the progress of destruction is so rapid, that the unfortunate patient soon perishes from its inroads, unless its march be arrested by the timely performance of amputation. Such cases are attended with great Embarrassment to the surgeon, as it is exceedingly difficult to

Wounds of the Extremities.

Distinguish between those cases where the limb may be saved by proper means and those which require that it should be sacrafised for the still more important end; the preservation of the patients life. In trusting too much to the recuperative powers of nature, many lives will undoubtedly be lost; on the other hand it is equally true, that an opposite course of procedure would be attended by the loss of many limbs. As a late author remarks "It is an excellent observation, founded on the purest humanity, and justified by the soundest professional principles, that to save one limb is more honorable to the surgeon, than to have performed numerous amputations however successful; but it is a remark, notwithstanding its quaintness fully as true that it is much better for a man" to live with three limbs than to die with four". The experience of surgeons has led to such different opinions on this subject, that it is impossible to lay down any fixed rules with regard to it; we can only mark out a few general principles, for the guidance of the inexperienced which must of course be liable to many exceptions according to the situation of the patient Thus should it be on the field of battle, where the patient is unable to command the conveniences, his situation requires; and where amidst the vicissitudes of war he is often subject, to frequent removals; many limbs must inevitably be removed; which amid the conveniences to be obtained in private practice, might have been preserved. Here as in compound fractures, the attending circumstances, of the case; must alone, Govern the action of the surgeon.

The circumstances attending Gunshot and other contused and lacerated wounds are various, and will require some consideration, as they exercise so great an influence upon the propriety of amputation in such injuries

When a cannon ball moving with spent velocity, strikes a mem-

=ber and glances off from it, although there is frequently no solution of continuity in the skin, yet the soft parts beneath are generally so much bruised as to be completely deprived of their vitality, and will rapidly mortify, if the limb be not Amputated. In cases of wounds by a cannon or Gunshot, by the fragment of a shell, a splinter of wood, or the individual becoming entangled in machinery; the soft parts are generally so much lacerated and contused; the principal vessels and nerves so completely destroyed and the bone often bared and shattered to so great an extent, as to render immediate amputation necessary. There cannot under these circumstances be the slightest question, of the propriety of the immediate performance of amputation. For should it be neglected or too long delayed mortification will so speedily supervene, as to put a period to the patients existence. In cases however where the laceration is not extensive and the contusion not so violent; provided the principal arteries and nerves of the limb, are not destroyed; it will be the duty of the surgeon to attempt, its preservation, as in very many cases he will succeed.

It will often be necessary to amputate limbs; which by some great injury have been carried away in part and the stump left in a ragged and lacerated condition. In these cases the bone is generally protuded beyond the soft parts to a considerable extent, and the injury of the soft parts so great, that nature will be unable to accomplish a cure without a long and tedious suppuration and exfoliation. The operation will then be necessary in order to remove a source of irritation; and to substitute for the uneven and ragged, state of the parts caused by the injury, a clean and smooth incision.

Again in all cases of extensive injury of the larger joints immediate amputation will be requisite where practicable.

In all cases it is the duty of the surgeon; (where it is pract-

=cable) to use every exertion to save the limb of his patient; but where an attempt to do so, is fraught with imminent peril to life: it can in no case be justifiable, to make such an attempt.

E. Exostosis. The existence of this disease can seldom or never constitute a necessity for amputation; save in those cases, where the weight and size of the tumour or the peculiarity of its character and situation deprives the patient of the use of the member or interferes with the performance of some vital function; Even under those circumstances this operation will not be necessary unless the other for the removal of such tumours cannot be rendered available

F. Caries or Necrosis. This is another distemper which sometimes gives rise to a necessity, for the removal of the limb in which it is seated; when the bones of some of the extremities, become deeply involved in necrosis, accompanied with extensive abscesses, exhausting suppuration or great disease of the soft parts; together with such disorder of the constitution, and prostration of strength, that we can no longer entertain a reasonable hope, that the cure will be accomplished by the efforts of nature. Amputation of the member will be required. Should the disease of the bone, be of limited extent and be unattended with large fistulous openings or wasting suppuration, and the constitution of the individual young and vigorous; the efforts of nature properly aided by the surgeon will be sufficient to accomplish a cure. A seperation of the dead from the living parts will take place, in such cases; and it will only be necessary for the surgeon to remove the necrosed portion of bone and by treating the case upon general principles to sustain the constitution and further the efforts of Nature in effecting a cure. It should however be always be remembered that the resources of the system are very great;

That cures are frequently effected, under circumstances the most unfavourable, in appearance. The operation should consequently be reserved as the last resort, and should not be performed except in cases where the life of the patient can be preserved by no other means

G. White Swelling With Other diseases Of the Joints.

Scrofulous diseases of the joints with thickening and ulceration of the articular cartilages and ligaments together with extensive disease of the reticulated structure of the bones of a joint, often constitute a necessity for amputation. When the articular cartilages are deeply involved in the disease; the extremities of the bones mainly destroyed by caries; and the ligaments so thickened and spoiled, as to be unfit for their office; and when there are numerous fistulae and deep sinuses, giving vent to copious discharges of pus and sanies; sooner or later, the patient will succumb under the immense discharge or be worn out by the diarrhoea and hectic fever, which is so certainly induced; Under such a condition of the patient, the removal of the diseased member by amputation will be necessary.

Cases of the kind, last mentioned, baffle the best directed efforts of the surgeon to cure, or even retard the progress of this distemper, they often prove, absolutely ineffectual, its march is constantly progressive; if a timely resort be not had to the operation for removing the offending cause; the death of the patient will certainly and speedily result from allowing the violent constitutional irritation to be so long continued.

But in many cases where the disease is not so formidable in extent and character; a cure may be effected by putting in requisition the resources afforded by modern surgery. The efforts of the surgeon if sufficiently persevered in will often terminate successfully and a cure will be accomplished

Without the necessity of removal of the member.
It should be remembered, that in cases of white swellings and disease of the joints; amputation is attended with more success, when performed late; than when executed at an early period, before the disease has made considerable advances. This fortunate circumstance affords the surgeon an opportunity for giving a fair trial, to all remedies calculated to arrest the progress of the disease or remove the necessity for Amputation

11. Extensive Suppuration, and Ulceration

There are few cases, of extensive suppuration and ulceration, affecting the extremities; that will require so harsh a remedy as amputation. In most cases where extensive deposites of matter take place, all that the surgeon will have to do, will be to make an artificial opening, by incision, for its discharge. In all cases where fistulae and sinuses exist they should be freely laid open. Ulcers should be managed by the proper course of constitutional and local treatment. Should the bones not be involved to a considerable extent, Nature properly assisted by the surgeon, will be generally found adequate to the cure. But on the other hand should the bones be deeply implicated and pus become extensively infiltrated, and diffused through the interstices of the muscles and along the sheaths of tendons, the havoc extending so far as to completely bare the bones, nerves and vessels of the part. Violent constitutional disturbance will be the consequence Hectic, diarrhoea and extreme emaciation will ensue, and the unfortunate patient should he not obtain relief; will sink exhausted. In such cases Amputation would seem to offer a means of relief. But unfortunately experience has shown that the performance is incompetent to the suppression or cure of this terrible distemper. A removal of the source of irritation

does sometimes prove effectual in accomplishing a cure. But in by far the greater number of cases, the purulent deposites, have again appeared at some other point and the patient at last has fallen a victim to its wasting influence. Of that species of suppuration in which there is disease of the joints, I have previously spoken at large. Suppuration within the cavity of the joint can never alone call for the removal of the member. Should the cartilages however, with the bones ligaments and synovial membrane become deeply implicated, the performance of the operation will be required, in order to save the individuals life. The course of the surgeon must here be governed by the extent of the disease and the amount of suffering the patient endures; it will frequently be more prudent to excise the diseased joint than to remove the entire member. As to the propriety of amputation for extensive ulcerations seated upon the extremities, much must of course depend upon the extent of the disease and its influence upon the constitution. Where an ulcer of great extent has been allowed to exist for a number of years. The system becomes habituated to its discharges, it performs the office of a drain; which it would be dangerous to arrest, unless a benignant discharge be instituted for a temporary substitute In such cases the operation should only be performed where the disease is so great a burden and inconvenience as to prevent the patients performing the ordinary offices of life and even then, it should not be executed without mature deliberation; and a careful investigation of the case

3. Aneurisms. These tumours when of great size and extent complicated, with extensive caries of the bones, gangrene and immense destruction of the soft parts of one of the extremities; may require the removal of the member for the prolongation of life. But even here, amputation should be considered a last resort. never to be performed unless there is no other means of saving life In all the other forms of the disease in questions, the improvements of modern surgery furnish means; which if properly used, will be found amply sufficient for its cure or removal

K. Cancer, Fungus Hematodes, and other inveterate Tumours

These truly formidable and inveterate diseases, when seated upon one of the extremities, frequently render amputation so necessary and imperative resort. Their development is generally of so insidious a character and their progress so rapidly disorganizing as frequently to preclude the possibility of saving the patient. For should the operation be performed it will frequently be followed by a redevelopment of the disease in some vital organ, rapidly extending itself and putting an end, speedily to the patients life. It is possible however, when the disease is of a limited extent to remove the diseased portion without sacrificing the whole member. But this is only practicable in a very small number of cases. Yet in a large majority of cases, where the limb is diseased to a considerable extent – where the bones are deeply implicated – where the disease presents the character of fungus hematodes, encephaloid or melanotic degeneration – Experience has fully shown that the immediate removal of the limb presents the sole means of saving the patient from certain death. Even this is sometimes ineffectual, the disease so rapidly reappears and advances so fast; that it is impossible to stay its progress or prevent its fatality. The operation is however, sometimes successful and should always be performed even under unfavourable circumstances, if there remains the slightest prospect of success. The judgement of the surgeon qualified by experience to ask him how much of the limb, above the diseased portion it is necessary to remove in order to prevent the recurrence of the disorder. In those diseases of the bony structures denominated, colloid degeneration, spina ventosa, and Osteosarcoma and other inveterate diseases, amputation will be frequently required as removal presents the only means of cure.

L. Tetanus. This has by some surgeons been considered one of the conditions which require amputation. But a knowledge of the pathology of the disease, and proper reflection thereon; would convince any unbiased mind that a mere removal of the original injury, would not break that chain of morbid catenation, whose seat is the cerebro-spinal centre. Experience has determined that even when

performed under favourable circumstances and by the most skilful surgeons, it has rarely been attended by a removal or even remission of the disease. so unsuccessful has been the results of this practice; that by far the greater number of eminent modern Surgeons unequivocally condemn it alleging that the very few cases that have resulted favourably under its adoption can by no means be looked upon as a justification for its execution

M. Amputation from Complaisance. Under this denomination we class all those cases where amputation is not necessary, to preserve life from destruction; but which will sometimes call for it. in order to remove some natural or acquired pice of conformation seated on one of the extremities, rendering the individual an incumberance to himself and friends, totally disqualifying him for the common offices of life. Cases frequently fall under the notice of surgeons in which from the eager desire of the sufferer to be deprived of the inconvenience and deformity, to which the defect exposes him; it is necessary for the surgeon to decide upon the propriety of the removal of it, by this operation. Experience has shown it to be a fact, that when an operation is performed under circumstances like those under consideration, it is followed generally by a fatal result. Notwithstanding the condition of the patient would promise a successful issue. Instances are related By Richerand, Roux, and others where operations of apparently the most trivial character, have been attended by fatal consequences. Such cases very clearly illustrate the impropriety of resorting to a procedure fraught with so much danger merely for the removal of a trifling inconvenience. The surgeon should always have a clear conviction of its necessity before he yields to the solicitations, for its execution

Second Division

The Period most Favourable for the Performance of Amputation

The period most proper for the performance of this operation

Is the most difficult of all other points to determine, connected with this subject, have given rise to a greater diversity of opinion connected with the matter under consideration. This question is more particularly important as it relates to the cases, in which the operation is required on account of external injury inflicted upon a member, and in those where a gangrenious state of the limb requires its performance. In the first description of cases mentioned above, the operation when performed immediately after the receipt of the injury is denominated primitive amputation. Where the operation is not practised until after a considerable time has been permitted to elapse, it is termed consecutive Amputation. The question turns upon the discussion of these two points.

One party strenuously advocate immediate amputation the other as strenuously insist upon the propriety of delaying it until the disturbance in the system produced by the injury has been allayed. Notwithstanding the difference of opinion that has so long a time, been existing between surgeons I think that in cases where the injury is one of great extent and the parts involved are of great importance, Where the soft parts are extensively lacerated and the bones reduced to a mass of irritating fragments and where the principal vessels and most important nerves, are broken up primitive or immediate amputation is unquestionably proper, and its performance becomes the duty of the surgeon. Even in cases where the injury or disease is of less extent, should the patient be one of feeble constitution, no doubt can be entertained as to the propriety of immediate amputation after the proper reaction of the system shall have taken place. When inflammatory symptoms have already ~~taken place~~ made their appearance all hope of success must be placed upon our ability to conduct the patient safely through the stage of excitement and suppuration; and bring him to a period of tranquility more favourable

For the performance of this operation. The surgeon should never think of operating whilst the system is in this disturbed condition unless gangrene should supervene and progress in so rapid a manner, as to demand it, for the immediate preservation of life. In such conditions its performance ought not to be delayed. This practice however should not be adopted unless mortification be inevitable; and then it must be looked upon as a matter of necessity not of choice Should this necessity for amputation during the existence of Inflammation not occur. The surgeon must be content to adopt such treatment as is calculated to subdue the perturbed state of the living organism, and to bring about a state of tranquility; which will generally be in the course of from fifteen, to twenty five, or thirty days; at which time the member may be removed with a much better prospect of success, than at any other period, except that best calculated for the performance of primitive Amputation.

Here However much must depend upon the constitution and condition of the patient with the extent and nature of the injury or disease

The patient is frequently found exhausted, by profuse suppuration and hectic fever or is affected with some extensive lesion of important viscera so that should the operation be performed in the most skilful manner the issue will be unsuccessful owing to the enfeebled condition of the vital energies, being such as to render them incompetent to sustain this new aggression. If the removal of the member has been necessary from the commencement and all possibility of saving the limb is at an end; amputation must be considered the only remedy and should be immediately practised.

There are however some circumstances, that will render the operation altogether hopeless such as the existence of some dangerous or incurable disease in some important Vital organ, as phthisis pulmonalis, dropsy, lumbar abcess caries of the spine disease of the heart, an abcess of the liver with a profuse exhausting diarrhoea, and such inveterate disease as that the performance of such an operation, will Only be followed by a redevellopment of the disease and the patients destruction only hastened. Extreme debility may also constitute such a condition, as to render this operation improper. experience has however shown that the removal of the violent and exhausting irritation kept up by the diseased limb, though the debility be extreme, is soon followed by a speedy restoration to health. under such circumstances much may be accomplished by proper preparatory treatment.

The surgeon should always pursue such a course as will tend to place the constitution of the patient in the best possible condition and enable him to endure the operation

It will after all be seen that the precise period most proper for the performance, of this important operation cannot be determined; but only approximated. Nothing more can be done than to lay down, a few general principles which will be, only calculated to assist the surgeon in determining his course

The principles I have already laid down. They must (of course) only be looked upon as land marks; which will be always varied in importance according to the peculiarity of the circumstances of the case

Every thing must depend upon, the Judgement Qualifications, and experience of the Surgeon.

The individual who seeks to practice a profession

Involving so much responsibility, should neglect nothing
calculated to enlarge his information, maturse his
Judgement, and extend his experience; upon all
subjects connected with the practice of his profession.
Such a course can alone procure for him success
in the treatment of disease, and Eminence
Among his brethren

Finis

An
Inaugural dissertation
on
Erysipelas
Addressed to the Provost Trustees and
Medical Faculty
of the
University of Maryland
For the degree of
Doctor of Medicine
By
Arthur Richie of
Balt. Md. March 1836

By the requisition of what perhaps may be considered a very judicious and highly useful regulation of the institution to which this is presented; it is rendered obligatory, on each candidate for a degree, to present to his beloved Alma Mater some memorial of his having been reared up under her benign influence, and this must be the only apology for the following production.

Inexperience and want of information may perhaps be found its characteristics, nor is it to be expected that one who has just passed a limited period of probationary study, necessarily, embracing a great variety of subjects should be fully able to examine any one of them with sufficient accuracy. — Such as it is however, it is submitted with a hope that the learned critics eye, will pass lightly over its many imperfections —

Erysipelas — St. Anthony's fire

Erysipelas may be defined to be a cutaneous inflammation attended with redness a tingling burning heat swelling and vesication, and the affection which is irregularly circumscribed by a defined line and characterized by a remarkable propensity to spread so called from its tendency to draw the neighbouring parts into the same state — a genus of disease in the Class Pyrexia and Order exanthemata of Cullen. When erysipelas is defined to be inflammation of the skin a peculiar kind of inflammation must be implied, for the skin like other parts, is often the seat of common inflammation. Without reviewing the different opinions or divisions of this affection by surgical writers we purpose in this little essay to consider the disease under the following varities or forms subject however, to several prominent modifications exhibiting important peculiarities both in relation to the character of the local affection and the nature of the attending fever. First into Erythemal, where the affection is local and of the lighest possible form. secondly true Erysipelas a more violent cutaneous

inflammation attended with effusion into the cellular substance and generally vesication, with much constitutional disorder. Thirdly, Phlegmonous Erysipelas a higher grade of the inflammation involving the cellular and adipous membrane as well as the skin.

The term Erythema is applied to a local cutaneous affection, characterised by a slight superficial irregularly circumscribed redness of the surface of some portion of the skin not sensibly swelled nor attended with vesications superficial spots of a vividly red colour variable in size and attended usually with very slight heat and pain come out on a greater or less extent of the surface in a short time the redness becomes more vivid and afterwards changes to a violet hue, particularly on the central parts of the patches, the slight swelling subsides in the course of the second day but the redness continues from about the fifth to the tenth day and then terminates in resolution or desquamation. This variety of the disease is most frequently met with in females and young persons and is usually seated on the neck breast and arms.

Causes – Erythema may be produced by the direct action of irritating agents on the skin such as the direct rays of the sun burns, blisters, the bite of insects, acrid secretions

or discharges remaining long in contact with the skin, and by the chafing of two contiguous surfaces as between the breasts, in the arm pits groins and internal part of the thigh from riding on horse back, it is said to occur symptomatically from intestinal irritation, dentition, menstrual irregularities particularly about the declins of the menses and is sometimes associated in oedema or anasarca of the legs —

Treatment — consist principally in the removal of the cause if any, the exhibition of some saline aperient with a light vegetable diet and cold applications when produced by heat or the sting of insects, a cloth wrung out in cold water may be applied to the part: laxatives, tepid ablutions and warm bath are serviceable, and soothing applications when it occurs from friction of surfaces or heat, as a liniment composed of equal parts of oleum lini and aqua Calcis or an aqueous solution of borax opium Acet. plumbi and other slightly anti phlogistic means, are the only measures essentially necessary.

Simple or true Erysipelas is a febrile disease attended with diffusive cutaneous inflammation on some part of the body the skin is preternaturally red and shining having a slight rosy tint in the early stages and slighter cases of

the affection hence it has received the popular appellation of the rose, while in other instances it is of a bright scarlet or even a deep red, the colour disappears on pressure returning as soon as the pressure is removed, considerable burning and stinging pain, but neither pulsation nor tension is felt in the inflamed part if the skin alone be affected; in most instances various symptoms of deranged health precede the appearance of erysipelatous inflammation such as lassitude, slight headach, loss of appetite, nausea general depression, furred tongue; and a disagreeable feeling of weight in the epigastrium and is frequently ushered in by febrile symptoms of considerable severity, which continue through the whole course of the disease, the pulse being frequent, and commonly full and hard — after the inflammation has continued for an uncertain time tho usually about the third day small vesicles or blisters of various sizes filled with a limpid or yellowish serum make their appearance on the succeeding day and sometimes not untill two or three days after; these vesicles break and discharge a viscid fluid which occasionally forms crusts or large scabs. when the inflammation is about terminating in resolution which usually occurs about the fourth or sixth day the redness of the affected

part diminishes and assumes a pale or brownish yellow colour, the swelling begins to subside and the skin acquires a rough and rugose appearance and on the following day desquamation takes place. — In phlegmonous erysipelas or where the inflammation is very active and extends its self to the subcutaneous and intermuscular cellular structure the tumefaction is more considerable than in the simple form with greater constitutional symptoms and a decidedly synochal grade of fever the pulse being hard, tense and frequent, a vivid red appearance and a distressing burning heat and pricking pain of the inflamed part a dry tongue with urgent thirst, the swelling usually commences about the second day of the fever, and in a few days more small vesicles appear on the inflamed skin — when the disease tends to resolution these vesicles break or subside about the fifth or sixth day, the redness assumes a yellowish hue the tumefaction and fever gradually decline and by the eighth day, the old cuticle begins to desquamate — frequently however instead of taking a turn to resolution, the pain becomes throbbing at the same time that the redness diminishes, and more or less extensive suppuration of the ordinary phlegmonous character takes place. when

the inflammation extends deeply into the cellular tissue the pain is always extremely severe the skin tense and exceedingly painful to the slightest pressure; and the general phlogistic irritation vehement. In these cases the course of the disease is ordinarily tedious, sinuses are formed and the suppurating and sloughing process go on to a greater or less extent. Although erysipelatous inflammation most commonly terminates in resolution yet suppuration and gangrene frequently occur in the more violent grades of the disease. It is to be noticed however, that there is something peculiar in erysipelatous suppuration, both with regard to the seat of this process and the character of the pus which is formed. It always commences in the subcutaneous cellular tissue, and the pus generated is very rarely thick and yellowish like that in common phlegmonous suppuration, but thin grayish or whitish, somewhat acrid and sanious. the matter is never collected in circumscribed cavities, it travels along the cellular tissue under the skin and between the muscles untill the cellular structure is almost entirely destroyed in the affected part, small openings finally ulcerate through the skin, and the matter mixed with shreds of sphacelated cellular

membrane is discharged. through these orifices large portions of deadened cellular structure may be drawn resembling peices of wet tow, in instances of this kind that finally get well the skin grows fast to the muscles and even the muscles themselves adhere to each other, rendering their action very difficult, and sometimes destroying the free use of the limb entirely. When it attacks the head it is mostly preceded by shiverings, complaints about the region of the heart, and other symptoms similar to those which indicate the approach of an intermittent, the heat being often accompanied with delirium and almost always with drowsiness of a more or less evident kind, the eye lids are often so swollen that the patient cannot see, and the whole countinance is exceedingly disfigured. — such are the general phoenomina of erysipelas, it is subject however to several prominent modifications which becomes us to notice. sometimes it shifts its situation either by receding and attaching some internal or distant part (erysipelas metastaticum) or else by getting gradually well on one side, while it spreads on the other called thus (erysipelas erraticum vel ambulans). its tendency to spread to some internal organ is a circumstance

in the history of the disease of the utmost importance as well as to bear in mind the general classification of all those cases into such as are Idiopathic and others which are symptomatic or the effect of some injury or disease. When the disease occurs in weak and nervous individuals it is apt to assume a typhoid character, and is generally accompanied with low delirium throughout the greater part of its course, in instances of this kind, the inflamed part is of a dark or livid colour, the vesicles are not numerous, but large, and frequently terminate in gangrenous ulceration. suppuration and sloughing of the cellular tissue usually take place, this constitutes what is termed by authors Erysipelas gangrenosum. — In some cases the erysipelatous inflammation is early accompanied by an Oedematous state of the affected part, and this is more particularly apt to be the case when the disease attacks persons of a relaxed and leuco-phlegmatic habit, or in such as have suffered much from chronic disorders, or are habitually intemperate. This modification makes its attacks more mildly, and is upon the whole less dangerous and distressing than the preceding varities, altho' sometimes attended with considerable danger when it attacks the

face. The part affected is of a pale red or yellowish brown colour, and if pressed with the finger a slight pit remains for a short time, the vesications are smaller and more numerous than in the Phlegmonoid variety and after two or three days break and give rise to thin dark coloured scabs — when the disease attacks the face, the swelling often becomes so great as to close the eyes, and render the whole face exceedingly bloated. this form is denominated erysipelas Oedematodes. Erysipelas biliosum of writers is characterised by much bilious vomiting in the commencement, and throughout its whole course the symptoms of biliary disorder are very conspicuous, the tongue is covered with a brown fur, the tunica albuginea is tinged with bile; and the skin generally exhibits a more or less icterode hue. the fever is of the synochus grade and suffers very distinct evening exacerbations and morning remissions. the urine is small in quantity and charged with bile; and in some instances bilious diarrhoea attends. — The most common grade of erysipelatous fever is the strictly inflammatory, in some instances the fever in its onset manifests a Typhoid tendency, but as soon as the inflammation

appears its synochal character becomes developed; most commonly, however the fever begins at once to manifest its inflammatory character, and this is more particularly apt to be the case in the phlegmonoid variety of this disease, in nearly all instances in which the inflammation attacks the face, the attending fever is of this grade, and it is of course always more apt to assume this high inflammatory grade in the young, plethoric, and robust, than in aged, infirm, and relaxed individuals. Not unfrequently however, the attending fever is typhoid ab initio and through out this is most apt to be the case in weak, nervous, and irritable subjects particularly in those cases that occur in hospitals and Infirmaries in broken down or impaired constitutions. Erysipelas of whatever variety it may be, is always more dangerous when it attacks the head than when it occurs on the body or extremities, this arises chiefly from the brain being apt to become oppressed or inflamed in severe cases of the face, Infants are subject to a modification of Erysipelas, (E— neonatorum) of a very obstinate and dangerous character, It usually occurs soon after birth. and instances are related of children having been born

with blotches of erysipelatous inflammation so far advanced as to exhibit vesications and spots of Gangrene the inflammation always appearing first about the genitals nates and umbilicus varying in its course from about seven days to three weeks. in its general character it is never purely inflammatory, but always manifestly gastric and irritative, another affection which is equally confined to new born infants and considered to be closely allied to the present one. if not in reality the same disease is the Induratio tela cellularis characterised by a peculiar hardening consolidation or induration of the cellular tissue mostly met in the foundling hospital of Europe. — a very fatal malady and rapid in its course terminating often by the third day in tetanic spasms, and seldom continuing beyond the seventh.

Causes — In relation to the cause of erysipelas nothing very definite can be said. some individuals appear to be constitutionally predisposed to this affection and it is supposed that this predisposition depends on a peculiarly irritable and delicate condition of the dermoid system. it originates frequently from a disordered

state of the chylopoetic viscera, and particularly from derangements of the hepatic functions; in some persons burns, wounds, and other local irritating causes, are particularly apt to give rise to erysipelatous inflammation. Speaking of the causes of this affection Mr. Lawrence says "that the habitual excitement of the vascular system, or the long continued disturbance of the stomach, alimentary canal and liver, consequent on intemperance and excess, lay the foundation of inflammation generally, and it depends on individual peculiarity, or on local causes whether the skin or other parts shall be the seat of the disease. It attacks both sexes but women are thought to be rather more subject to it than men, and the reason for this circumstance generally mentioned is, the greater delicacy and tenderness of the skin in females; a frequent source of this affection after accidents or operations is improper diet as also tight bandageing, irritating plasters, and the indiscriminate use of sutures. — sometimes the disease is periodical, recurring in the same person regularly, at certain seasons of the year, especially in the spring and autumn. A doctrine has been started that erysipelas is sometimes propagated by contagion (See Wells in Trans. for the

improvement of Medical and surgical knowledge Vol. 2. 1800 and others, but we are inclined to believe what has been truly remarked by Dr. Bateman that all such cases are at all events extremely rare, and perhaps never happen in well ventilated and cleanly houses, in places of an opposite description ill ventilated wards of hospitals and infirmaries, the infection of many individuals together might be explained by the operation of the same exciting cause upon them all, without any supposition of contagion; being in such cases as it were of an endemico-epidemic character. —

Treatment — with regard to the general treatment of this disease, it is obvious that it must be modified according to the character of the attending fever; and that a course of remediate management, which might be very proper in one modification of the malady, would probably be very injurious in another.
When the fever is of a high grade of reaction, the treatment should be strictly anti-phlogistic, it is rather a prevalent notion that it is unnecessary to repeat bleeding in any case of erysipelas so frequently as is done in other inflammatory diseases, we ought to

be guided however, in this respect by the violence and extent of the inflammation, the state of the pulse, and other symptoms, never forgetting the patients age, strength, and other important consid-
-erations. mild cases of simple erysipelas, not exc-
-eeding a certain degree of severity, yeilds to mild purgatives, and a light vegetable diet, with which rem-
-edies practitioners usually conjoin refrigerant diaphor-
-etics and the saline mixture, unless symptoms of cerebral inflammation supervene, with an active state of the circulation; under such circumstances blood should be promptly and freely drawn in order to relieve the brain. when the pulse is frequent tense and hard, bleeding should by all means to be practised and carried to the extent that may be indicated by the state of the circulation. With regard to the propriety of local bleeding by leeches, very discrepant sen-
-timents are espoused by authors, Willan, Thomson, Richter and others, speak decidedly against this practice, while on the other hand Mr Lawrence recommends in the early stage venese-
-tion and the application of leeches in large numbers to the in-
-flamed part, together with antiphlogistic treatment generally in order to prevent the full development of the affection, writers also differ as to the proper place for the application of leeches

Carenave speaks favourably of this mode of depletion, but particularly cautions against applying the leeches to the inflamed part from their tendency to cause ulcerations, arising apparently in consequence of the leech bites - it must be observed however, that altho some advantage may be derived from the applications of leeches a small distance from the eruption, yet as the inflammation is apt to spread this will not obviate the evil consequences which are apt to result when they are applied to the inflamed surface; taking all things into consideration we should when the use of leeches is deemed proper, prefer to apply them directly over the inflamed part in order that they may more readily relieve the distended capillaries. Purgatives are useful in every variety of the disease, when the disease attacks the face, they are particularly serviceable; in the ordinary phlegmonoid form, the saline purgatives are in general the best; but where symptoms of gastric derangement attend calomel in small and repeated doses, assisted by an occasional saline aperient is preferable, in the bilious modification the exhibition of an emetic will often prove very useful. The regular action of the cutaneous exhalants should be supported by diaphoretics of the refrigerant kind, the Saline mixture with a small portion of Ant. Tart. or a table

spoonful of the following mixture every two or three hours may be given with advantage Rx Spirit Mindereri ℥vj Sp. Nit. dulce. ℥ij Vini. Ant. ℥ij Syrup. Limonis ℥ij Aq. — small portions of Calomel and Ipecac. in union are peculiarly beneficial in this disease, more particularly in the erysipelas of infants — Profr. Potter strongly recommends the utility of emetics, in cases that occur in children, especially in the commencement of the disease — Throughout the whole course of infantile erysipelas, our principal aim should be to restore the regular actions of the liver, alimentary canal, and of the skin; and hence small doses of Calomel and Ipecac. with an occasional dose of Magnesia or Castor Oil and warm bathing, constitute a very useful course of internal treatment in this variety. When the attending fever is typhoid direct or general depletion will of course be entirely impracticable, in such cases bark and wine have been much recommended; perhaps from the very first, and where symptoms of prostration are great, it will be necessary to employ them actively either combined with Carb. Ammonia may be given with advantage in cases of this kind; the quinine however, would appear to be the best tonic in this modification. Aether, tonics and stimulants are essential in cases of a low grade of reaction, yet mild laxatives are important

remedies throughout the affection, the bowels are almost invariably loaded with irritating matters, which if not removed tend strongly to oppress and prostrate the powers of the system. In what is called the Gangrenous modification the fever always assumes a low grade in its progress, however active it may have been in its early stage. where symptoms of approaching Gangrene come on, or where this process has already commenced Veins. opium Camphor quinine and the mineral acids are the remedies upon which our reliance must be placed — Sir Astley Cooper, speaking of the treatment of erysipelas of a typhoid tendency says "At first give calomel for the purpose of restoring the secretions of the liver and intestines, and the Liquor Ammonia. Acet. with antimony to act upon the secretion of the skin, and then give the Sulp. Quininæ. Free purging with active doses of Calomel in the early stages of the disease, will very generally render the necessity of tonics and stimulants in the latter period much less urgent than when this evacuation has not been sufficiently effected. Should the inflammation terminate in suppuration and sloughing, Opium and Camphor with quinine or bark are indispensable in all such cases. Where the pain and irritation are great, opium, after proper depletion, seldom fails to procure much relief, it should be given in full doses, at the same time that cold applica-

-cations are made to the scalp and forehead. — When secondary inflammation occurs in some internal organ, recourse must be had to local and general bleeding, if the pulse remain sufficiently active; and in all such cases cupping sina-pisms blisters and the other usual revulsives are indispen-sible. — In cases attended with prominent cerebral dis-order, such as delirium, coma, or insensibility, active purgatives, and stimulating enemata are highly impor-tant means. For this purpose the oil of turpentine has been found very efficacious when combined with Castor Oil and administered both by the mouth and per annum. In cases of Idiopathic erysipelas, whether phlegmonous or bilious external applications have been deemed useless or hurtful by a large proportion of practitioners, in the early stages of the disease powdery substances like flour, starch, chalk, increase the heat and irritation, and afterwards when the fluid of the vesicles oozes out, such substances produce additional irritation. The only plan perhaps which is unobjection-able as a means of allaying the irritation produced by the dis-charge from the vesications, consists in fomenting or washing the parts from time to time with milk, bran and water or a decoction of poppy heads or elder flowers. — Blisters applied to the inflamed surface, will often promptly

arrest the progress of the inflammation and is highly a useful remedy. Dupuytren speaks favourably of this practice, and it has been found useful, after a long experience by Dr. Physick — blistering is said to be most useful where there is but a moderate degree of febrile reaction, with a moist and slightly red tongue, and a somewhat hot and tense skin. The blister must be laid directly over the inflamed part and be large enough to extend a small distance on the sound skin; they have this advantage, that they prevent gangrene. — A highly important local remedy, we have yet to mention, more particularly in cases of phlegmonous erysipelas, and which has been highly recommended by English surgeons, we allude to Scarifications — which we have seen practised with much benefit by Profr. Smith at the Balt. Infirmary. Mr. Lawrence thinks the most powerful means of arresting the complaint is by making one or more long incision through the inflamed skin and the subjacent adipous and cellular tissue, which are the seat of the disease; these incisions are followed by an almost instantaneous relief and cessation of pain and tension and consequent interruption to the inflammation — Mr. Hutchinson on the contrary considers it better to make a number of smaller incisions

about an inch or an inch an half in length through the skin and cellular structure. The great points on which a diversity of opinion exist respecting the treatment by incisions, are the period when they are really necessary, and their number and exctent. To the practice therefore in the early stage of the disease where it frequently admits of resolution we are inclined to believe the practice of making incisions as unnecessary, and objectionable, but at a more advanced period when matter is formed, or where there is much tension, and pain, making free and bold incisions for its discharge will doubtless prove highly beneficial, and which we should put into practice on all proper occasions — What is termed Oedematous erysipelas is generally considered to be an unfit case for bleeding and free evacuations, and almost always to require a tonic plan of treatment, in short the right practice in every example of Erysipelas is to let the remedies be regulated in a great measure by the state of the constitution, the pulse, the strong or reduced condition of the system, the sort of fever accompanying the disorder, the age, temperament of the patient; and the particular stage of the complaint. altho, the antiphlogistic treatment may be the only safe plan at first, circumstances may quickly change and a method quite the reverse of it, is to be rigorously adopted.

An Inaugural Dissertation On Cholera Infantum;

Addressed to the Provost Trustees and Medical Faculty Of the University of Maryland For the Degree Of Doctor of Medicine.

By James L Teazey. Of Maryland.

1836.

To

E..... Geddings M.D.

Professor of Anatomy and Physiology in the University of Maryland as a faint mark of the high esteem and respect, of the many favours received, and the great anxiety and pains manifested for my medical and scientific improvement.

This thesis is dedicated with the utmost regard by his

Obedient and

Humble Servant

The Author

Preface

I have endeavoured in the following pages, to give a practical, but brief account of Cholera Infantum, its Causes, its symtoms, post mortem appearances, treatment, regimen and preventatives.

I have written this Thesis not from an effect of choice, but in compliance with a law of the University of Maryland. I therefore ask the reader to pass all its imperfections by.

The Author

Cholera Infantum

Is a disease that generally makes its appearance about the latter part of June or the first of July, and continues during the summer. It attacks Children from a few weeks after birth till, two or three years old, and appears to be a disease almost peculiar to the United States.

Causes.

There are several causes which may be ascribed to the production of this malady, viz., Caloric or the matter of heat; the contaminated air of crowded cities; and the irritation produced by dentition. These are the three principal causes, whose concomitant influence is extensively concerned in the production of this variety of Cholera. Unripe fruit is frequently a cause of this malady, or any impropriety in diet and clothing; it is likewise very often

agravated by worms premature weaning, and a variety of adventitious circumstances.

After having given the several causes of this disease, I shall now endeavour to explain the manner in which these causes act.

1st. Caloric, or the matter of heat is the remote cause of this disease; hence we have this disease prevailing during our warmest and calmest weather; this malady more frequently makes its appearance in large and crowded cities, than it does in the country, on account of the heat being more excessive, and the air more contaminated.

When we have caloric to an excess, it relaxes the system and brings it into a state of indirect debility, and all that is necessary to produce this malady is the exciting cause, which is the introduction of matter into the stomach that does not harmonize with it.

Symptoms.

Sometimes Cholera Infantum commences as a simple diarrhea and occasionally attended with nausea.

In the more violent form of the disease, vomiting and purging of green and yellow matter, very frequently in this disease, the feaces are slimy and sometimes mucous, occasionally tinged with blood.

Occasionally the irritability of the stomach and bowels is so great that the ingesta passes off unaltered; the odour of the discharges from the bowels generally have a very disagreeable smell as that of sourness or putridity. The type of this disease is various, but most generally of an irregular remittent character, the exacerbations being highest in the evening. The pulse is usually small, quick, feeble, and sometimes the brain is affected sympathetically, then there is a tendency to stupor, or delirium, and sometimes convulsions.

; When this is the case the eyes are either fierce or languid in expression, and when the patient is asleep they are half open, occasionally the pulse full, frequent and corded. If this state of things should continue long, it may terminate in Hydrocephalus internus. There is another form of this disease which is sometimes long and protracted, and the patient assumes the Hippocratic countenance, in this stage the eyes are sunk, nose sharp, cheeks depressed, lips shriveled, belly becomes tumid, feet edematous, aphtha appears, and finally the senses become impaired or entirely lost,— Thus the patient becomes completely comatose as the symtoms become more manifested and death closes the scene.

Post. Mortem Examinations. 6

Upon the dissections of patients who have died of Cholera Infantum, we are clearly informed of the seat and nature of the disease.

The brain presents no morbid appearances in recent cases, except those of congestion; but in long ~~and end~~ standing cases, effusions are met-with, constituting Hydrocephalus
The viscera of the thorax are seldom affected.
The contents of the abdomen seems to be the chief seat of the disease, and upon which it mainly expends its force.
The effects of prevous inflammation may be traced in some cases throughout the whole of the alimentary canal; though it is in the mucous membrane that they are principally to be found; also dark livid spots are to be seen dispersed over this coat of the stomach and intestines.
In many parts there is an alteration of structure by the thickening of their coats, and frequently to such an extent, that the caliber of the tube is reduced considerably. The large intestines are seldom involved in this mischief, and perhaps never, excepting where the disease

assumes the dysenteric form. The liver, gen=
erally and especially in long standing cases,
is greatly enlarged; although thus increased,
there is not any very evident derange=
ment of structure, and this enlarge=
ment seems evidently induced by torpor
in the portal circulation.
I have thus given a few of the most
important and practical appearances
which post mortem examinations point
out. I will now speak of the treatment.

Treatment.

When this disease is of a mild type, it may be
treated with Castor oil, and occasionally
the addition of laudanum when there is little
or no fever; but in the more aggravated
form of this disease, attended with vomiting,
Calomel may be very judiciously used, it being
the only remedy that can with any certainty
of success be relied upon.

It should be given in small and frequent doses until the liver and bowels are freely acted upon, the feaces discharged are of bilious character, and this assisted with oil, antacids &c., should be rigidly persevered in, until the action of the liver and bowels assumes a healthy character. Should there be high fever, attended with cerebral determination and great gastric distress, blood-letting, general or local, or both, would be applicable in this stage of the disease. Should the irritability of the stomach and bowels continue, attended with cold feet and hands, small feeble pulse, the warm bath and blisters should be used and the Calomel continued until there is an equilibrium of action produced. It is well known that in this disease there is more or less of inequality of temperature, so much so, that one part of the body will be parching hot, while another is very cold. In these cases, the warm bath is a valuable remedy, it equalizes temperature, diffuses a

glow over the entire surface of the body and at the same time other and great benefits are attained.

When there is much cutaneous insensibility it may be rendered more effectual, by adding salt, mustard &c., and on taking the patient out employing frictions.

Having perfectly evacuated the primæ viæ, and re-established healthy secretions, purgatives should be desisted from unless the bowels become too much constipated, or we have evidence of re-accumulations of bilious and fouler contents, with hepatic torpor and congestion, when pretty much the same treatment is to be renewed.

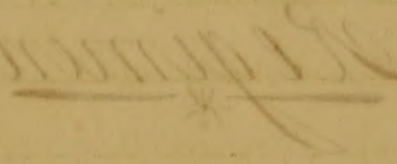
After having pursued the mineral plan of purgation, if irritation be excessive, and, as usual productive of painful and frequent discharges, anodyne injections, with the internal use of the chalk julap, soda, salts of Tarter, and Gum arabic mixtures may be advantageously used.

Yet it will be occasionally necessary to administer a mild purgative to remove oppressive accumulations, when they manifestly exist, for this purpose Oleum Ricini is the best. As the disease advances, it loses most or all of its acute or painful symtoms, and becomes a colliquative diarrhœa.
The remedies most suitable where the disease runs into this form, are combinations of chalk, with the Tincture of Kino, infusion of Galls, black berry root and Laudanum are worthy of confidence. Also a flannel roller around the abdomen is occasionally productive of signal benefit.
Tonicks may be used in this disease, where the system is worn out from debility. The infusion of Colombo has much reputation; also the infusion of log-wood, Gentian, Quassia and Bark have all been employed with marked advantage in this stage of the disease.

But even in these cases, while the strength requires support, Calomel is serviceable, particularly if there are marks of the want of bilious discharges, or the presence of vitiated humours. Calomel shold not be given so often when this disease takes upon its self the chronic form, say twice or three a day, or to be governed according to the circumstances of the case; although the alterative tratment should be persevered in until there is a decided change produced. We will now proceed to the consideration of

Regimen

In the commencement of the disease the diet shoulds consist of breast milk exclusively; as this simple diet has been known to cure the disease. Caution however is to be observed that the child does not suck too much or too often



If thirst be importunate, cold gum arabic water, may frequently be given in small quantities, instead of the frequent nursing.
If the child will not suck, let it be fed on diluted sweetened milk, barley or rice water, milk or gum arabic tea.
These will serve as a drink and diet; but any of the following teas may be used for this purpose, viz., balm, marsh mallows, soda water, burnt bread and water.
In the advanced stages of this disease the farinaceous articles may be employed, as thin tapioca, sago, rice or boyl'd flour
Where there is extreme debility of the stomach and bowels, and no fever present, a little ham or salt fish may be allowed.
Yet the only remedy which is a sovereign and nearly unfailing is a change of air. As long as the child remains in the city and exposed to the operation of the causes of the disease, the course of treatment I have laid down, may have a great tendency to palliate or suspend

its career; but very frequently will not make a radical cure — Relapse upon Relapse takes place until all the strength is finally extinguished, and death closes the scene of the little sufferer.

Great benefit is gained by a removal to the Country in every stage of the complaint. It is said of the late Dr Rush that he never lost but three patients, where this advantage was commanded, and experience teaches us to admit, there is nothing so effectual.

A few remarkes will now be applicable on

Preventatives.

1st. A child should not be weaned within the year, when practicable to prevent it. There is no nourishment so salutary as the natural milk.

Weaning generally predisposes to its attacks.

2d. The wearing of flanned next to the skin, and woolen stockings is a salutary means, and the benefit of this system is experienced by grown persons, prone to intestinal complaints, and its utility is no less known in children.

3d. The diet should be duly regulated, and excess of any kind studiously avoided, unripe and unwholesome kinds of fruits absolutely abstained from.

4th. No animal food should be given to children at the breast, particularly if it has no teeth, milk, with the farinaceous articles is the best food.

5th. The gums should be strictly attended to during dentition, and if any swelling or inflamation be present they should be lanced.

6th. Children (particularly those predisposed to this disease) when practicable, should always be removed to the country, but not too early in the season.

I have thus finished, but imperfectly a short essay on the Causes, symtoms, post mortem appearances, treatment, regimen and preventatives of Cholera Infantum

The Author.

The
following dissertation,
upon
Acute Rheumatism,
is most respectfully submitted,
To
The Honble Provost, Trustees,
and Medical Faculty
of
The University of Maryland.
For
The degree of
Doctor of Medicine
by their Obedient H. Servt

George W. FitzHugh
of Virginia
January 1836

Nathaniel Potter M.D.

Sir

Permit me to dedicate to you the following pages (not for any merit which the Treatise contains in itself for you will perceive I have advanced no new ideas) But Sir in consideration of the profound respect and veneration I entertain for your distinguished talents, and varied acquirements in the Science of Medicine — That your life of usefulness may be continued to your fellow-men for many years, and your well earned fame may be still more widely extended is the ardent desire of your obliged Pupil — — — — —

The Author

Acute Rheumatism.

It may be proper before entering fully into the merits of the following treatise, to offer a few remarks as to the particular structure of the body most generally conceived to be the seat of this disease. The fibrous textures of the body may be stated as its true seat, and most commonly the tendinous structure is the part affected. The ligaments which are most susceptible are rather those which are subservient to the joint as accessary, than as immediate connections, and those which belong to muscles and tendons. The ligaments of the vertebræ which are most external are sometimes affected. The sheaths of tendons, the aponeurosis, and the bursæ mucosæ, are parts more frequently affected by this disease than the ligaments themselves. It is thought (from the soreness which the patient sometimes describes, as if fixed in the bone itself) that the periosteum is occasionally affected. The nerves are believed sometimes to be separately affected. Of this form of the disease the Sciatica nervosa, as it has been called, is thought the clearest example. It is not easy to determine whether the filaments of the nerve itself, or its covering

texture is its primary seat. The former conclusion is thought most probable from the sudden and electrical like shootings of pain said to be experienced even in the incipient state of this complaint. The dura Mater has been said a rare occurrence to become the seat of inflammation under acute Rheumatism, and its contiguous serous membrane, the Tunica Arachnoides becomes excited to increased action. The pericardium and Diaphragm may become involved. This state of things is said to occur in proportion to the acuteness and violence of the attack united with its disposition of quick transference from one situation to another. Happily however such occurrences are very rare in this disease. — . — . — . — . — . — . —

Prognosis.

Although extremely painful Rheumatism is not considered a dangerous affection so long as the inflammation remains in the external parts. But when translated to some internal organ the most serious consequences are to be apprehended —

The duration of an attack of acute Rheumatism is extremely various, and is thought to depend much on the degree of constitutional predisposition to the disease and on the immediate management adopted for its removal — When the disease

-is about terminating favourably, a general diaphoresis, with a copious palered sed-
-iment in the urine occurs - and in some instances moderate diarrhoea accompanies the
declension of the fever and inflammation - This disease occurs but very rarely
during early infancy - and very aged persons are seldom affected with
the acute form of it - although especially liable to the chronic variety -
from the seventh to the forty fifth years of age the period at which this disease
is most apt to occur - Lean and muscular persons of a sanguinous temper-
-ment are in general supposed to be much more liable to this disease than
individuals of a fat and soft habit of body or of a nervous or lymphatic
temperament - . — . — . — . — . — . — .

Predisposing Causes

The existance of hereditary structure might be assumed as an occasional
predisposing cause of Rheumatism - But it is obvious that the infuence
can be drawn only from general reasoning, and not from demonstration -
We certainly see instances which in the disposition to this disease is strongly
prevalent in the same family - I think this may be accounted for from

a similarity of habits in regard to clothing, temperature of apartments, exposure &c. I concive therefore that we should exclude similarity of structure from its share in the explanation of the fact— An unhealthy state of the digestive functions, deranging the nervous system and producing irritation becomes the ground work on which the disease establishes itself— This disease is not peculiar to either sex, men however constitute the largest proportion, no doubt on account of their being most exposed to wet and cold— The season of the year has been thought a predisposing cause more or less active according to the degree of moisture and variable temperature which is prevailing— Authors have generally concurred in fixing upon spring and autumn as the most frequent seasons for Rheumatism habits of effeminacy, great warmth of apartments and clothing may predispose the body to its influence— . — . — . — . — . — . — . — . —

—Exciting Causes—

Suppressed perspiration from cold and sudden atmospheric vicissitudes are without doubt the most frequent exciting causes of Rheumatism. It is on this account that the disease is so much more common during the damp, raw

and variable months of Spring and Autumn — than in the more mild and equable season of summer — Indeed Rheumatism is almost peculiarly a disease of cold and variable climates, its occurrence in the warm and more uniform latitudes being rare — Mercury has been by some accused of being the cause frequently of this disease — But it is doubtful if it of itself is even the exciting cause although it is probable, the excessive abuse of this valuable medicine may predispose the system to the influence of low and variable temperature, and in this manner may become indirectly the cause of this disease — , —

— Symptoms —

Acute Rheumatism generally commences with the ordinary initial symptoms of febrile affections, from cold or atmospheric vicissitudes, a sense of chilliness alternating with flushes of heat, with general lassitude, loss of appetite and depression of Spirits, are the usual symptoms which attend the development of the disease — In many instances a general soreness and aching of the body accompany these symptoms — Sometimes the febrile reaction becomes completely established, before the local Rheumatic inflammation supervenes —

In other instances more or less pain is experienced from the commencement of the attack in one or several joints or in other fibrous structures, and occasionally the local affection occurs before any manifest general sympathetic irritation takes place.— The parts affected with Rheumatic inflammation are swollen, red, and extremely painful The slightest pressure or motion causing the utmost degree of suffering When perfectly at rest the patient often experiences some abatement of the gnawing and tearing pain during the day—but at night intense exacerbations usually take place— Whether the fever precede or rise with the development of the local inflammation,— It always acquires additional violence as soon as the local affection is fully established, The pulse becoming, full, frequent, and vigorous, the skin hot and dry the tounge coated with a white fur, changing to a brown colour as the disease advances— The thirst very urgent, The bowels constipated and the urine scanty & of a deep red colour, transparent and without sediment, In very severe cases, head ache, and occasionally slight— delirium attend during the exacerbations—〃—〃—〃—〃—〃—

Diagnosis

By the ancients, Rheumatism and Gout were generally described under the common name of Arthritis, and it does not appear that they regarded these affections as being diverse from each other— The essential identity of these two diseases has indeed found advocates among modern Pathologists, although the general sentiment at present is that they are radically distinct from each other— The principle distinguishing circumstances between them are, first the periodical recurrence of Gout, after it has once invaded the system whereas Rheumatism does not possess this tendency, the patient often remaining entirely free from the disease during the rest of life after having suffered an attack of it— Secondly, the distinct character of their causes— Thus Rheumatism is almost invariably the result of atmospheric inclemency or vicissitudes, causing sudden suppression of the cutaneous exhalations— It is not produced like gout by indolence in conjunction with the free use of vinous drinks and rich high seasoned ~~articles~~ and stimulating articles of diet—

An attack of acute Rheumatism is not usually preceded by uneasy sensations in the stomach and other gastric disturbances, Gout is very often preceded by dyspeptic symptoms, Thirdly the predisposition is often transmitted from Parent to offspring, This is rarely the case in relation to Rheumatism Fourthly Gout is most apt to occur in debilitated and relaxed habits its occurrence in lean, muscular and temperate persons, inured to hardships and toil being extremely uncommon, whilst the reverse in all these respects obtains in Rheumatism —— " —— " —— "

Treatment

In the treatment of this disease General Bloodletting is a remedy of great importance, care should be observed however lest by the too frequent repetition of this valuable remedy Chronic symptoms be induced If the diaphragm or intercostal muscles be affected in the course of the disease so that the respiration is performed with extreme difficulty or if any internal viscus be seized with inflammation, while the System is under the influence of acute Rheumatism— A prompt abstraction

of Blood is indispensable, and its repetition will be suggested by the usual prin-
ciples of practice— If an individual of strong muscular fibre and of sang-
uineous temperament be seized with acute Rheumatism in full health
Bleeding at the commencement of the attack is a measure of the utmost
necessity and value, and the propriety of its repetition will be clearly in-
dicated both by the good effects which it may have produced and by the
urgency of the subsequent symptoms, When its employment is proper, its
control over the violence of the disease is more immediate and effectual
than that of any other remedy, It should be exercised with
great circumspection in persons of Languid constitution in whom
the circulation is excited rather by pain and general irritation
than by the true inflammatory diathesis— For the most part large and
repeated Bleedings during the first days of the disease seem to be
necessary, But to this some bounds are to be set, for very profuse Bleedings
occasion a slow recovery, and if not absolutely effectual are ready to produce a
Chronic Rheumatism, and may occasion a Metastasis to some organ of vital importance—

Cathartics

Purgatives are always useful in this affection, The advantage of making a detraction from the general circulation by the channel of the alimentary canal is no less remarkable in Rheumatism than in every other inflammatory disease, In proportion as we pursue this practice upon a continued principle from day to day do we obtain its good effects The circulation becomes moderated, The inflammatory diathesis subdued, and the absorbent system is excited to increased action, Hence we powerfully promote the removal of those excrepine secretions of the synovial membranes, which have been already described as causing the distention and impeding the motion of the affected parts Saline purgatives administered in small doses, and at repeated intervals, are very advantageous, The action of the kidneys becomes excited and the cure by this means apisted ℞ gr. xv calomel should be administered at night followed in the morning by a small dose of Sulphate of Magnesia. The following aperient may be administered

with advantage in this complaint— ℞ ℥ij Sulph. Magn. Tart. Ant. et Pot. gr. i— dissolved ℥ VIII water and taken in doses of a table spoonfull every hour— " — " — " — " — " — " — " — " — " — " —

Emetics

Emetics have been considered particularly useful when Rheumatism is complicated with functional disorder of the liver, They should never be administered however, until the inflammatory symptoms have been previously subdued by Bloodletting — " — " — " — " — " — " —

Diaphoretics

Although little or no benefit is usually derived from profuse sweating nevertheless diaphoretics may be employed with advantage for the purpose of producing gentle and uniform diaphoresis — " — " — " — " —

Sedatives

The use of opium guarded by the influence of other medicines is our most sovereign remedy when the inflammatory diathesis is slight and more especially when the increased action of the heart and arteries

arises chiefly from the irritation of pain - when the Rheumatic inflammation is translated to some internal organ, opium preceded by copious depletion is almost the only remedy upon which any reasonable hope of advantage can be placed, It should be administered in full doses in conjunction with calomel say three or four hours until relief from pain is procured, — " — " — " — " —

Tonics

The Peruvian Bark was formerly much recommended in the treatment of this affection - The powdered Bark or quinine may be employed with advantage - after depletion and purging a in persons of weak and relaxed habits - Dr Haygarth speaks in the highest terms of it as a remedy in this disease and says except Mercury in Syphilis there are few or perhaps no examples where a remedy can produce such speedy relief and perfect recovery - Eberle however has known manifest injury result from its use in this affection and thinks it only safe during convalescence in this disease — " — " — " — " — " — " —

Colchicum has been highly extolled as a remedy in this disease, It was at first prescribed only in the Chronic form of Rheumatism, experience has however proved it to be a useful remedy in the acute form of this Complaint. Eberle speaks of it in terms of commendation and recommends the following

℞ Vinous Tincture gtt. xxx. with gr. xx. Calc. Magnesia every four hours until slight nausea or purging is produced ——o——

Regimen

The practice in the management of this disease of placing the patient between Blankets or Covering with the warmest clothing is highly objectionable, They should on the contrary be placed between well aired Sheets, using only the slightest covering with which they can feel comfortable, The room should be kept freely but cautiously ventilated, adding at the same time the comfort of a good fire as the season of the year may seem to require The diet should be of the mildest liquid & Farinaceous articles of food The drinks may be cool and acidulated — except diaphoretics are admin—

isteady when tepid diluents alone are admissible — " — " — " —

Local Treatment

We shall briefly consider the question of local internal treatment in cooperation with the pregoing constitutional remedies, During the active period of the disease very little advantage is said to be obtained by local treatment, Benefit however may be derived by the application of cups or leeches to the affected parts — and after the general inflamatory excitement has in a great degree subsided much benefit may be derived from the application of blisters to the inflamed joints. compression is a favourite remedy under such circumstances with some Eberle states that he has witnessed considerable relief from a flannel roller applied pretty firmly around the affected Joint in a few cases — " — . — " — . — " — " — " —

Prophylaxis

The prophylactic management consists in the use of those means

which may invigorate the system and thereby lessen its susceptibility to the impressions of atmospheric vicissitudes—With a view to this important point the patient should every morning wash his head and neck by means of a coarse towel with cold water and sponge the feet also every morning with water freed from any unpleasant chill by the addition of warm water—for some individuals sea Bathing or even the cold Bath during the summer season is considered a remedy of great value. The useful use of flannel to the skin during the greater part of the year, in this precarious climate, and for persons who are delicate and very susceptible unremittingly through the year is too well known to require particular injunction—" —— " —— " —— " —— " —— " —— " —

Jo. E. Snodgrass.

Virginia

Of

Comparative View of the effects of Venesection on the human frame, in some of its various pathological conditions

By

Joseph E. Snodgrass

Of

Virginia

University of Maryland

1836

Preface

The author of the following remarks, is fully convinced, that little can be expected from those whose field of observation and inquiry, as well as time apart from other duties, is too limited to admit of that thorough investigation, which a subject of so much importance, demands.

In penning what has been written, I have only argued with boldness, on those points of difference, where no little practical experience has warranted such a course; as, for instance, the use of the lancet, and the pathology directing it, in diseases of miasmatic origin. Of the use of bloodletting in different contagious epidemics, I have said nothing; knowing nothing from observation.

It has been a source of deep regret to have differed in opinion during the progress of my inquiries, so often with the Profession of Therapeutics et al— to whose department this subject belongs. To this I have been compelled, in honesty of purpose, and in the exercise of that freedom of inquiry, characteristic of the present age. Indeed, it would be, at all times, considered an honour, to be found coinciding in sentiment, with a man, whose talents, brought

long since, into the most active exercise, have contributed so much to the treasures of the medical profession.

With these prefatory remarks, this paper is submitted to the scrutiny and, it is hoped, the lenity of the board of examinators — to be passed from their hands, into the dust-house of the ~~dross~~ forgotten theses of this University.

The Author

Baltimore
January 1836

Note — Several pages, prepared on the effects of bloodletting in intermittent fevers, diseases of the spleen, dropsies, et cet, have been omitted in this copy, on account of the great length of the original manuscript. — I, E, S, —

Introductory Remarks

The use of the lancet, has been a subject, on which the sentiments of practitioners of medicine, have been more divided, than on any other in the whole field of medical inquiry. One cause, it seems to me, more than any other, has contributed to keep alive the prejudices of its enemies. They appear to imagine, that this remedial agent is entitled to little, or no, credit, unless it is capable of producing its salutary effects alone, and unassisted, in every instance. This is more than they expect from any other remedy. Why then from this? Strange indeed, that the use of the lancet, should be discarded altogether, because like all other medical servants, whilst unassisted, it is often capable of making the most astonishing cures; at other times, it comes in as an assistant, or co-operating, remedy. Often our "sheet anchor" and only hope, it is, under other circumstances, entitled to an fullest confidence, in preparing the way, [illegible] for the application of other agents; whose effects without its

assistance, would be no more felt, than a single drop of ink from my pen.

Blood letting has, very strangely indeed, been considered by many, a remedy, of all others, most dangerous and precarious, in its effects on the human economy. Many very respectable writers, even in this age of successful investigation, are guilty of the most glaring inconsistencies: Whilst, in the blindness of their prejudices, they object to the use of the lancet, in many diseases clearly indicating its application, in view, as they tell us, of its debilitating effects, they will prescribe cathartics after cathartics of the most drastic, and irritating, kind; whilst, in reality, the remedy they discard would, produce far less debility, with far more benefit, than the remedies they adopt, with so much confidence of success.

I am inclined to believe, physicians are often too quickly alarmed, in the outset of their practice by merely apparent dangers. The sight of a delicate patient in syncope, perhaps, convulsions, as I have more than once seen, brought to that condition by the act of the practitioner himself, is to the young votary of the profession, no little

terrific and discouraging. Thus, I am inclined to think more than a few authors, have been led from mere incidents, to form prejudices against Bloodletting; Whereas, had they brought their minds to bear upon the phenomena before them, by pursuing their investigations a little further, they might have seen, in the very Syncope of the patient, a proof, that their remedy was producing the very effect calculated to cure the disease, for which they were treating. "Let it be a rule in all cases not strictly inflammatory, never to bleed to Syncope", is a maxim, in my humble opinion, unfounded, and calculated, if followed out in all its consequences, to lead to error. It is only by using the lancet to this extent, that its powers, as an antispasmodic, can be fully tested. And I have often bled patients, in maniacal affections, particularly those of the Splean, and in dropsical effusions, which so often accompany them, to any extent producing that state as nearly, as possible, approximated to Syncope, with the most marked advantage; and repeated it, time after time, without a shadow of fear. I know not on what, those, who apprehend so much danger

of suspension of life under these circumstances, found their fears. I have witnessed numbers of patients, in syncope; and never yet saw a death from this cause, when induced purposely by bloodletting. Indeed, we will have very little cause of alarm, when we reflect that, according to the estimate of Haller that admitted, I believe, by Professor Dunglison, in his Physiology, there are, at least, thirty pounds of blood circulating in the human frame, at every moment. Indeed, this estimate (the lowest contained in the tabular view of the author, to whom I have just alluded; that of Keill, being 100 lbs. Taking the the statement of Haller then for our guide, and it is probably entirely too low an estimate; then an ordinary bleeding, would not abstract more than $\frac{1}{20}$ or $\frac{1}{30}$ of the whole circulating fluid — and perhaps this so altered by disease, as to be a burden to the system, rather than a source of support. How unfounded, then, must be the fears of those, who are ever deterred by an apprehension of prostration and death, and whose lancets are of consequence forever sheathed, or, if used at all, carried to

too small an extent, as produce no sensible, or salutary, effect upon the system.

Of the use of bloodletting, in inflamatory conditions of the system, it is needless I think to say much; since those, who are most prejudiced against its employment, in other states of action, are generally agreed on the position—that it is, in such conditions of organs, as depend upon hyperemia, "our main reliance". In this class of deseases, the indication is certainly to lessen action in the organ, or organs, labouring under excitement; and the lancet is the sedative agent generally best adapted to fulfil such indication. If it were necessary, and compatable with the limits of this treatise, I might give several cases, where its efficacy has been tested on old and debilitated patients; in whose arms, the timid practitioner, to whom I alluded in my introductory remarks, would never have suffered the blade of the lancet to enter. I attended a patient of twenty eight years of age, frequently, in a pleuritic affection; from whose veins I have abstracted pint after pint of blood, to the greatest advantage. His pulse, as is common to old people, was

of the intermitting kind, and during each attack, would seem to call for any thing but the abstraction of blood—its soft and yielding nature being considered, without regard to the fact of such a peculiarity in the arterial action of old aged, and to other signs pointing to a condition of things, of which the pulse, in this case, would fail to give us warning.

In inflamations, & congestions of the brain, and effusions from vessels destributed to that organ, all will admit abstraction of blood the Champion of remedies. In apoplexy, from whatever cause—whether dependant, as Wilson Philip has it, on a loss of cerebral energy without congestion, or effusion, or in those other conditions on which this dreadful disease may depend, bloodletting is often our only hope. The same remark will apply to its employment in epilepsy. It is absolutely necessary, in these cases, to abstract blood, in order to relieve the brain from the pressure exerted on it by the fulness of vessels, or effusion, produced by high arterial action. But, unfortunately for mankind, even this powerful sedative agent

is, often, to the regret of the philanthropic physician, found impotent and unavailing, where the depressing cause has made too deep an impression, or remained too long, to be removed with a hope of the organ's resuming its wonted play of energies. Yet, this sad reflection should never lead us to neglect its use in any case, pushed to no small extent. I have prevented, on more than one instance, an attack of epilepsy and arrested it when completely formed, by the timely exhibition of the lancet. I myself owe my life, I believe, to the influence of this remedy, in breaking in on the forming stage of apoplexy; a predisposition to which, was a part of my parental legacy. My father died of apoplexy, following inflamation, induced by a mere earache; for want, in all probability, of a single bleeding — there being no physician present, in time to apply the proper remedy

A question might be here started as to the propriety of bleeding from a large, or small orifice in encephalic affections. It is contended by nearly all medical men, with whose opinions I am, at

ale acquainted, that blood is, in all cases of this kind, most effectually drawn from a large orifice. On what principles, however, they found this universal practice, I am unable to learn. It seems to me, that the most advisable course to be pursued, in many of these pathological conditions of the brain, would be to remove the cause of cerebral action, as gradually as possible; so that, the vessels of the encephalon, might by degrees, accommodate themselves to their changing condition, contracting in their calabres, as the blood flows away. The small size of the orifice, does not prevent our taking as large a quantity, as can be drawn in the other way. Indeed it would seem, that this cautious abstraction of the circulating fluid, would enable us, with safety, to draw away a larger amount, than could be taken, with confidence, in the other mode. In diseases dependant on pathological conditions not clearly understood, it is certainly unsafe to effect a sudden abstraction of blood. Besides it is impossible to regulate the quantum of abstracted fluid, to suit the constitution of the patient and the nature, and force of disease. It were but reasonable to expect, that those, who

contend for the practicability of cupping, in many cases, in opposition, to the lancet, in view of the former being a more gradual mode of abstraction, should be found advocates for bleeding after the manner I am inclined to adopt; yet strange, indeed, such are often the most ardent supporters of large orifices, in all cases, when they deem the loss of blood required. Where we employ venesection for the purpose of breaking in on the morbid calenation in the system, on which the paroxism of an intermittent, depends, I confess the more sudden the reduction of the circulation the better; for this purpose, the larger the orifice, the more powerful the shock on the nervous system, and, consequently, the greater the revulsion. In tetanic convulsions, and contractions of muscles from dislocations, there is no doubt of the propriety of allowing the blood to flow in a full stream. In a word, it is when we bleed antispasmodically, that the large orifice is always most advisable and beneficial.

Whilst the abstraction of blood has by most

authors, been deemed indispensable in concussions of the brain; errors too often are committed in the time of using it. That the state of the brain and spinal marrow, forbid its application with benefit, or even impunity, directly after the receipt of the injury producing it, there seems to me no room to indulge a doubt. At such a time the pathological condition of the encephalon is a state of suspended action; and stimulants are clearly demanded to arouse it, if possible to its wanted functional action.

I had my bosom filled with pity on witnessing the murderous practice of a graduate of this University, in a case of concussion, in which, methinks, he might have pursued a better practice, had he merely listened to the lectures of the Professor of Surgery. A labourer was thrown from a cart upon his back, receiving, at the time, a great part of the force of the fall upon the occipital bone. A violent concussion was the consequence, for which he was immediately bled freely by an extra-professional gentleman, who claimed to be near

I arrived in a few minutes after the Physician under whose care the patient was placed, and found him employing venesection a second time, tho' no signs of reaction had yet supervened. Finding the patient still remaining in that restless, yet sinking condition peculiar to this state of the system, and supposing more blood letting required, I witnessed the third bleeding, with those feelings, which I might be expected to have, in seeing one of my fellow beings, thus sacrificed to on the altar of professional ignorance. I need hardly say, this unfortunate man soon died; and certainly the Physician, who pursued such an erroneous, and deplorable, practice, was highly culpable in his conduct, even under the supposition, that the patient would have died under any circumstances; for I contend he robbed that poor fellow of every hope of returning life. I think this case, if known to young practitioners, might warn them of the necessity of caution in such cases, and never to act until they first conclude what is the true pathological condition for which they treat; and then use

the lancet with a liberal hand, if its employment is absolutely required. Such cases as these, indeed suddenly by some unforeseen accident, require the most calm reflection, and scrutinizing thought.

The next class of diseases coming under my notice, in the order I have determined to adopt, is that of Miasmatic origin. On these I shall write with confidence having had, for a student no little opportunity to study their ever changing characters. Such diseases present a wide & pitiable field for thought. Indeed it is to me no little source of surprise, that those affections most familiar to many of the students of this University, and at the same so destructive of human life, directly and indirectly, should receive so little attention, and investigation. I do not mean that sort of investigation, which deserves not the name, contented with the nosological names and prescribed doses of a "text book"; but that thorough investigation, which leads us, in the language of Doct. Dunglison, to "throw off the trammels of authority" and to observe and

reason for ourselves. Indeed, the miasmatic diseases of our country are too much neglected by authors of medical practice. Satisfied with the names "remittent" and "intermittent" of nosologists, and the treatment by calomel antimonials and refrigerants, in the one case, and purgatives & tonics in the other, it is thought waste of time to inquire into the true pathology of each of the various diseases of miasmatic causation. I hope I shall be able to prove, in the course of my remarks, that the nosology of these diseases is entirely defective; especially the name "bilious" always connected with the word "remittent," as if there can not occur a remittent fever without an interruption of functions in the biliary system. Such nosology leads to error in practice. Young practitioners treating, too often, for names, instead of studing into the various pathological conditions miasmata is capable of inducing.

Venesection by no means, forms an indication in many cases of miasmatic disorders, even in those

of the continued kind, that, as we shall afterwards discover, it is of useful application oftener than is by many supposed. In diseases of this kind, when there are undoubted signs of hepatic congestion or obstruction, manifested by the ordinary signs - such as the appearance of the bilious tinge under the cuticle, and more particularly in the delicate membrane of the eyes, amounting in some cases to complete jaundice - I consider the indication of calomel, or some other preparation of mercury, as plain as human judgement can render it. It is only by removing the cause of obstruction in such cases, that the liver, and other organs secondarily affected, can be restored to their wanted sanity.

But there are numerous (and I might say they form the vast majority) cases of remittent and continued fevers, in the treatment of which, mercury in any form, is either useless, or comparatively injurious. Of such I have had many examples in the practice of my highly esteemed preceptor, J. Finley of Newport MD, and in Virginia during the past

year. They are of very frequent occurrence along the line of the Chesapeake & Ohio canal, so much so, that I am inclined to believe, that a Broussais might have found more than one fact going to support his gastro enterite theory of these diseases. I do not wish by these remarks, to convey the idea, that I am a Broussaisite, I believe Broussais too has gone to an extreme, in avoiding the faults of others. In what better mode can we explain the cause of the great irritability of the stomach and intestines, in many of the patients that have fallen victims to the ideopathic fevers, as they have been styled — Unless we admit, that the effects of miasmatic poison, have been felt primarily by these organs. In such an excited state of the intestines, antiphlogistics are most clearly pointed out, and of these, when much arterial action is present, the Lancet must be considered the most efficacious and prompt in its operation, and under such circumstances, should never be forgotten. —

In many of those cases of bilious diarrhœa, for the cause of which we look to the hepatic system, the discharge is induced by the intestines being rendered irritable by miasmatic influence, and thus liable to be thrown into irregular and inordinate peristaltic action, by that, which, under a healthy condition of the mucous membrane, would have been incapable of producing the effect. Hence, we see a diarrhœa may be induced by healthy bile, when the mucous coat of the intestinal tract is in a hyperemic condition. Would it, then, be practicing on true principles to prescribe for the liver, under such circumstances? Certainly not. The true mode of management, would be to strike at the root of the disease — to remove the inflammatory condition of the intestines, by the use of the lancet, or other antiphlogistic means; and the disease depending on it, would immediately cease. But it is not my intention to deny, that the pathological condition on which these diarrhœas accompanying summer fevers, depend, is not often seated in the biliary organs. On the contrary, I am confident that such discharges are, very frequently, referable

to the effects of vitiated secretions from this source, excoriating, as they pass along, the mucous lining of the inflamed intestine; so as to produce a state of action, precisely similar to that dependant on the hyperemia of the canal, I have, already, endeavoured to depict. In this case, the use of mercurials, would be as strikingly indicated, as would be the use of sedative remedies, in the opposite state of things.

I wish some one of the requisite ability, and influence, would call the attention of the faculty, to the subject on which I have just been treating. I believe, that a proper view of the pathology of the different kinds of diarrhœa, would put a stop, in a great measure, to the internal war waged by Broussais, and his followers, on the one side, and an "almost innumerable" army of English and American practitioners, on the other.

In the treatment of these intestinal affections, we, again, see the folly of treating for names and forgetting to inquire into the pathological aberrations, above our remedial efforts can be exerted, in hope of success.

The bare mention of the adjective bilious, in connexion with the name of a desease - for instance in "bilious remittent fever", as nosologists style all fevers of the remittent type - to say nothing of the appearance of bile, is sufficient to lead the unthinking, or nosology-prejudiced, physician to the immediate employment of that too much abused remedy (Calomel) in all cases. Hence the name of this class of febrile affections, being received in ignorance of true pathology, and retained, in the books, at the present time, has induced those, who neglect attention to first principles, to use mercurial preperations invariably; no matter whether the liver be implicated, or not. The sound of the word mercury, is inseperable from that of the improper name given to this class of miasmatic fevers, in the association of medical ideas in the minds of not a few, otherwise, good practitioners. But the only injury to patients of a strong constitution from this unnecessary, and "perturbating practice", is, perhaps, a greater degree of debility, longer time in convalescence, and much useless temporary suffering. So that, if the

patient finally recovers, the author of this practice is confirmed in the confidence he formerly imposed in his favourite remedy; attributing to it what should be referred to the efficacy of other remedies, used in the diseases, & if no others were used, to the curative powers of nature herself. How often do we thus attribute effects following a complicated system of medication, to the agency of some long employed, and favourite article; which has done more harm, than good, by retarding the action of those given in conjunction with it? How frequently nature has to struggle against both physician and disease.? I do not wish to be thought discarding the use of mercurials in all cases of the bilious (?) remittent fevers of nosology. This is far from my belief, and unsupported by the observations I have made in studying the nature of these ever varying maladies; for I am inclined to make, in amount, the same assertion, as that indulged when treating of diarrhoea - that I feel confident, from no little investigation, that neither the practice, which adopts mercurials, as univ=

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remedies in these cases, now that, which discards their use altogether, is the one which safety demands. Some form of this most useful article of the Materia Medica, is absolutely as much required in many cases of hepatic derangement, as it is, under other circumstances, injurious and uncalled for.

In this connexion, we can appreciate the force of the language employed by the Professor of therapeutic, when he said, in nearly these words— "The perturbating practice of those who give cathartic after cathartic in all cases of remittent and continued fevers, thus keeping up the greatest irritation in the intestinal tract— whilst they enjoin absence of noise and motion, as far as possible, and the use of none but the most bland & digestable aliment— ask a most inconsistent part." Yet I am afraid this author has, too often, fallen into an opposite error medicandi, and adopted, in many instances, a too inert, and ineffectual, plan of treatment. Whilst I admit his mild and refrigerating practice correct, as far as it regards the use of

cathartics; I must be allowed to say, that I do not believe his principles of treatment, lead to the use of the lancet, and other antiphlogistics, as often as they would; in all probability, be requisite in many of those very cases he had in his mind's eye, at the time he made the remarks, I quoted above. In those cases of remittent and continued fever, where the intestinal canal is in an inflammatory state, nothing will do but venesection carried, in each case, to the extent called for by the quantum of disease and height of action, taking in the mean time, the constitution, and age of the patient, into consideration. Indeed, I have seen more than one case of fever, on the line of Chesapeake & Ohio canal; in the management of which, to neglect the free abstraction of blood, would be to refuse the patient the only hope of earthly existence. In order to my being the better understood, let me bring before the reader's mind, in the form of an imaginary case, what has occured to me, in more than one instance, in saddening reality. Let us suppose ourselves called to visit a patient

in what nosologists would call an indiopathic fever. We find him in a state of insupportable agony, with a full and bounding pulse, flushed face, injected eyes, throbing carotids, and heart throbing violently against the walls of the thorax — all indications of a state of thing, not a little perilous. If you ask this patient, what are his feelings; he will tell you, if delirium does not forbid utterance, "I feel a great smothering at my heart, and must die, if something is not done!" You examine his tongue, and find it red on the periphery, or over its entire surface, indicating to the least observant mind, the true state of the stomach, and intestines. What would you do? Would you immediately exhibit calomel, and keep your lancet in your pocket? If you did, death would be his portion. In such a condition of the system, nothing, but a liberal abstraction of the circulating torrent, whose force is sweeping distruction over the brain and nervous system, could give a hope of recovery to your suffering patient. The other organs, whose functions are intimately dependent on the healthful

conduction of the great nervous centres, for their actual exercise, could they continue to carry on their operations, whilst this state of things existed. I was sent by my Preceptor, Dr. Hanley, of Williamsport Pa. to visit a case of this kind I have attempted to discribe; in which the patient, with all the other symptoms I noticed, was laboring under confirmed delerium. I immediately administered a large dose of calomel, and ordered a large dose of jalip & bitartrate of potapsa, to be given in two hours; using at the same time, the ordinary means to allay the intolerable pains in the extremities, which I should have noticed in my discription. The time for the administration of the last dose, had, scarcely, arrived, before the patient was far beyond the reach of earthly assistance. This taught me, in the very commencement of my medical career, that the article calomel, to which so much efficacy had been ascribed, and which I gave in this case empiricaly, would not do in such cases. Being sent, some time after, to a similar case, I determined to use my lancet; and bleeding this person to syncope — the effects of which, with very

little assistance from other remedies, lead to the rapid recovery of my patients, much to my delight, and you may suppose, that also of those who witnessed the operation. After this, I need hardly say, I used the lancet with no sparing hand, when the like morbid phenomena were present.

But facts in a therapeutical treatise, are not proper, unless accompanied by an explanation of the principles of practice, adopted, in such cases, and the pathology which directs them. This, however, would be a task difficult enough to one perfectly conversant with the subject, and possessed of greater powers of discrimination, than I, without presumtion, can claim. But I shall attempt the investigation. — Certainly the lancet is called for by the condition of the brain, in particular; an organ vitally essential to life, and under those pathological conditions, which we are about to consider, in imminent danger. It is only, therefore, by reducing the load of the circulation, and thereby relieving the veins of the encephalon, of their temporary engorgement, or congestion, that we can expect to produce that

equilibrium of circulation and innervation, on which the duration of life, depends. 1st; the pathological condition of the brain, under such circumstances, is not very readily understood. The question may be asked, with great propriety — Is there a greater afflux of blood to the head, in these states of fever, than to the lower regions of the frame, as the throbbing of the carotids, would seem to declare? Or is the morbid state of that organ, the consequence of loss of energy, induced by the effects of miasmata on the cerebral substance itself? So that, tho' there may be no greater quantity of blood, flowing through the internal carotids, than the descending aorta; yet the brain feels, on account of its having lost its resisting power, the effects of the hurried circulation, more than less sensitive organs, and thus gives the first evidence of danger. In support of the first, and perhaps more generally embraced, opinion, the difference in the pulsations of the carotids and radial arteries, might be urged as an argument; that in the carotid artery, appearing more full and forcible, when the finger is applied.

Now I do not pretend to deny that such is the case; since it would seem to be the case in the healthy state of an organization. And this difference of pulsation between the carotid arteries and the radial arteries, may be accounted for in two ways. First; The distance from the point at which we feel the carotid artery, to the heart is far less, than that from the propelling organ to the wrist. So that the pulsation caused by the circulating blood, must be, of necessity, more forceable, according to the laws of Hydraulicks; which teach us, that the decrease of force in a circulating fluid through a tube or pipe, is in such ratio with the increase of distance. And, secondly, we are warranted in this belief, by the fact, that the column of blood passing thro' the carotid arteries, is much larger, than that passing thro' the radial arteries; and hence, the impulse given to the fibrous coat of the former tube by the motive power of the fluid, is far more sensible. I am inclined, therefore, to the belief, that the greater perturbation suffered by the brain compared with other organs, is more

reparable to its weakened and exceedingly impressible condition, than to any want of equilibrium in the hurried circulation of the blood.

Before considering the effects of venesection, in typhus and typhoid fevers, the next subject in my order; I wish to notice a state of the circulation, which occurs so frequently in remittent, and continued fevers, and calling for the free use of the lancet; and yet, in the treatment of which, to those who feel it for the first time, the pulse becomes a very uncertain guide. I allude to that state of the circulation, in which the "suppressed pulse" of Rush is present, and which is treated of so eloquently, by that great man; to whom I am sorry to know, the epithet, "too enthusiastic", applied by such an influential writer, as Dr. Wright. For were such an epithet even just, gratitude to one, who has done so much for medical science, and mankind at large, methinks, should forbid its application, & dictate silence, where praise can not be

conscientiously bestowed. The existence and nature of this suppressed pulse, have been to me, a subject of no little interesting thought, when endeavouring to arrive at a knowledge of the pathological condition of the system on which its occurrence depends. It is a curious phenomenon in medical practice, to feel a pulse rising & becoming more full and free, as blood is drained from the system; Yet I have often observed this much to the relief of the suffering patient, and not a little to my surprise, in the first case I attended; notwithstanding I had previously read its description by Rush himself in his "Enquiries". I know not how this state of the circulation can be better accounted for than by supposing, that the oscillatory expansion of the arteries, thro' the influence of the nervous filaments distributed to them, has so effected the fibrous coats of the arteries, as to impair their irritability, or capability of responding to the stimulus of the blood circulating thro' them; whence occurs a complete

rigidity of their muscular fibres. In this view of the subject, we can readily understand how there may be an increase in both the quantity and velocity of the circulating blood; and yet the arteries, owing to the condition I have depicted, refusing to admit of that full and free pulsation, we might expect, at each systole of the heart. I have known the state of the nervous system on which I have supposed this condition of the arterial system to depend removed by a single bleeding, or so far altered, as to succeed in reducing and cutting short a continued, for the cure of which, cathartic after cathartic had been administered to little or no purpose. Of this, I could, if the limits of this paper would admit, give more than a few cases, in their history, no little interesting and instructive.

Typhus fever has been a cause of much apparently unprofitable discussion among authors, both with regard to the question of origin & contagion, as well as bloodletting. I believe, with Dr. Potter, in opposition to Eberle, and many

others, that typhus fevers are not propagated by contagion. If this were the place for such a discussion, I might give many facts, stated by Dr Potter and other practitioners of high authority, long past to establish the opinion of their non-contagiousness. The fact is in my humble opinion, we are too apt to pronounce such deseases contagious, merely because we find, that those who have communication with patients labouring under them, are soon after attacked by the same epidemic - because, in other words, it may run thro' a whole family, one by one. We forget, that all the members of a family or community, are subject to the same atmospheric and other influences, which produce maladies of this nature; and that there is wanting but some exciting cause, or peculiar susceptability, to develop deseases as readily in one individual, as in another. It is very strange that many old practitioners, who deny that typhus fever is of miasmatic, or atmospheric origin, should be so much afraid of the use of the lancet in idiopathic fevers

of undoubted miasmatic causation, for yeare as they allidge of inducing typhus. Why, it would appear if the two diseases are not of like origin, there would be no danger of converting one form of fever into the other. And yet Rush has been charged by some of inducing typhus fever and death, by using the lancet too freely on his own system — an assertion, the truth of which I am by no means inclined to admit, without something more, than mere assertion from his enemies.

I confess I am inclined to consider typhus a disease, at times, of miasmatic origin, always almospherical, and, by no means, contagious. I saw, in Virginia, during the past year, in one small room, three cases of remittent, and one of confirmed typhus, ~~and these all~~ continue distinct throughout. The typhus case was that of a man, whose constitution was debilitated by intemperance, and rendered, thereby, susceptable to that disease; as are others, according to Dr Potter who fall victims to typhus and typhoid

fevers, in our jails and penitentiaries — In such the want of proper food and proper clothing, absence of cleanliness, and light, and of ventilation, produce that atony of organs, calculated to usher in an attack of this desease, whilst their more fortunate, and uncincarcerated neighbours, are subject, from the same atmospheric influences, to deseases of a higher grade.

The neglect of bloodletting, in typhus and typhoid fevers, is attributable to an error committed, in the view generally taken of their pathology. The debility, which occurs in it so frequently ~~in the trains, as to~~ leads persons to suppose it impossible, that there should be hyperemia in any organ, requiring sedative agents, for its removal. The sound of the word debility, seems as inseperable, in the minds of many, from the word typhus, or typhoid, as cancer from bilious. Now this debility is often dependent, as we shall hereafter see, on inflammatory action in internal organs, the removal of which, is requisite to the patients

recovery; and it is, furthermore, often in a great degree, apparent. It is a pity there is such a word, as debility, in medical language. The sound, debility, follows some physicians thro' all the meanderings of medical practice; and the fear of debility, by causing the neglect of energetic treatment, has, perhaps, been indirectly the cause of more deaths than debility itself. If you suggest blood-letting, therefore, in typhus fever, no matter what may be the condition of organs at the time; you are, at once, met by the sound of the word debility, from all around. If you prescribe it in other diseases, no matter how inflammatory, whilst typhus is prevailing in a community; your practice is denounced, as leading to debility, and death. I recollect to have seen a patient, in a certain publick institution in this vicinity; when typhus fever was prevailing to a considerable extent at the time, threatened with death from the condition of his brain, in a violent attack of ca-

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fever; to whom the benefits of the lancet, were denied, for fear of debility and typhus; as if typhus fever itself, never called for the loss of blood.

In order to judge of the propriety of bleeding in the disease, it will be necessary to examine, for a moment, the pathology of typhus fever. I believe, that those who are most entitled to belief & confidence, on account of their post mortem investigations, are pretty generally agreed, that its pathology is seated in the intestinal canal. Doct Godding, gives it as his firm opinion, that the glands of Peyer in the ileum, are, in every case of typhus or typhoid fever of ten or twelve days duration, the seat of inflammation. His opinion is supported by post mortem examinations made on patients dying in the Baltimore Infirmary; from whom he took specimens of the ileum, which I had the pleasure of inspecting. He says the glands of this part of the intestinal tube, first or, in the first place, the appearance of "small pox pustules," which become more & more mature; and if the patients life is

prolonged for a greater time, these glands ulcerate so extensively, as, in some instances, to form openings through the gut, into the abdominal cavity; giving rise to a state of things, which it is impossible for the patient to, long, endure.

Doct Jeddings was kind enough to show me numerous plates by Cavendish and others, which depicted this state of ulceration in the ileal portion of the intestines, in a most striking manner, and threw much light on the pathology of typhus, and typhoid, fevers. Such high authority supported by extensive research, and laborious investigation, is certainly entitled to belief; and, for my own part I have not the least doubt of the position taken by the Professor of Anatomy. Such a view of the pathology of this distinctive class of fevers, serves admirably to establish the propriety of bloodletting in them; the benefits of which, I have tested, and it explains the reason of the occurrence of the small hard pulse I have noticed in typhus - the alteration of which, has been so often, effected by

venesection carried to the requisite extent. I was convinced, that this state of arterial action, was dependent on hyperemia in some internal organ; but what that organ was, I could not be satisfied, until I had the opportunity of examining the preperations and paintings to which I above refered.

I am inclined to the opinion, that many of our most respectable practitioners, fail in the cure of typhus, from exhibiting, too often, remedies of the stimulating kind, in condictions of the stomach and intestines: a knowledge of which, would forbid their use. They pour down stimulant after stimulant, for the removal of debility dependent on inflammation, and thus add fuel to the flames, and keep up, and increase the very action in the system, it should be the object of their medicines to remove or subdue. Our remidies should be in this, as in all other deseases, adapted to the pathological condition, on which the fevrile affection depends; which is inflammatory, and, consequently, requires such agents as reduce action.

Antiphogistics should be used, whenever the constitution and strength of the patient, will bear them; and after the irritative fever, caused by the intestinal inflammation, and of which the pulse is an indication, is removed by their use - the stimulating treatment should, then, be adopted. Stimulants following the sedative effects of the lancet, will be of benefit; whereas used by themselves unassisted, in the same case, they would do more harm, than good. They are capable, when applied after the manner I have prefered, of substituting a new and healthy action, in the place of the morbid one, that previously existed. I will recollect a case, which occured to me during the past summer, going to illustrate the propriety of the principles I have laid down above. I had attended a man in typhus fever, for nearly two weeks, pursuing the treatment by calomel, opened by other purgatives, and opium and caphor, to little, or no purpose; and whose fever was subdued, at last, notwithstanding the patient was by this time exceedingly debilitated, by a thirty ounce bleeding. That it was one of the worst cases of typhus, the appearance of the small

contracted, cracked and thickly ~~coated~~ coated, tongue, teeth covered with sordes, together with the nervous condition of the patient, and the presence of low muttering delerium, fully evinced.

I do not wish to be understood as advocating the free use of the lancet, indiscriminately, and without regard to the stage of the fever, or the state of the constitution. To bleed in all cases, where the debility of the patient, is extreme, would only be hastening ~~the~~ death in many instances. The unfortunate, the most lamentable, fact is, that no mode of treatment, under these circumstances, is capable of saving the vast majority of those, who fall victims to typhus, in the low form. What I wish therefore to be understood, as believing is - that the lancet should not be withheld, on account of the debility, which seems to be often more apparent, than real, whenever the constitution of the patient is not too much reduced to bear it; and I believe this is the case much oftener, than many

practitioners, in their love of the stimulating practice, in their prejudices and their fears, are disposed to believe. It might, then, be laid down, as a maxim, to the truth of which, there are few exceptions; that in the larger proportion of cases of typhus and typhoid fevers, where the constitution will not bear the lancet to more or less extent, there is very little hope of effecting a cure by any other means; and that where the lancet is exhibited, it should be followed by a cautious stimulating practice. Or in the words of Dr Geddings, we are compelled to "bleed with one hand and stimulate with the other".

I wish before concluding my remarks on the lancet, to notice a singular fact in medical history, that has perhaps escaped the notice of many practitioners.— The Cholera has certainly very much modified and changed the miasmatic diseases of our country, since that devastating epidemic first appeared. Whilst the cholera prevailed to the greatest extent in this climate, the decrease in the remittent intermittent number of bilious, and continued fevers, was

noticed by all physicians who paid the least attention to medical phenomena; but the fact, I have noticed has, as I have hinted, generally been overlooked. The physicians in my section of country became very much alarmed during the past summer and fall, at the singular symptoms occurring every day in the cases of fever before them! There was as a symptom very remarkable, for instance— the greatest irritability of the stomach, so that articles of medicine, which rested very well upon the stomachs of the very same patients, in the same disease, in previous attacks, were noticed to prove exceedingly offensive, and to produce the most violent retching and vomiting among, to cold cramps, in not a few instances. So frequent was this occurrence, in the practice of my intelligent and observant preceptor, that he became alarmed, and concluded at first, that some poisonous, emetic substance, had been mixed with his calomel, and that this had, perhaps, induced the violent irritation

I have noticed. He proved however, upon testing this matter, that any medicine he used, would be accompanied, in its operation, by the same alarming symptoms. I noticed, as did many others, in my section of country, in addition to the stomachal symptoms, mentioned; that the appearance of dysentery and cholera morbus, in the midst of idiopathic fevers, was astonishingly frequent. Many remarkable cases of this kind, came under my notice, and bothered me not a little; especially before I fell upon a modified plan of treatment. There were, also, fewer appearances of biliary derangement, than formerly, in the same class of fevers, and consequently less call for mercurials. Now, to what can we attribute the symptoms, I have enumerated, but a hyperemic condition of the stomach and intestines? It seems to me there must have been sufficient choleric influence remaining in the atmosphere, to produce, when combined, in action, with the miasmatic effluvia,

an inflammatory state of the mucous lining of the alimentary tube; so that almost every thing, that came in contact with it, was capable of producing either vomiting and griping, or both, in the most alarming degree. This choleric nature, in these people, if I may use the expression, compelled physicians to alter, materially, their former mode of management; and to use antiphlogistics, and antispasmodics, and astringents, much more frequently, than in former years, in the same deseases. This idea of great epidemics compelling other deseases to wear "their garb", is, by no means, new. Rush, in his remarks on yellow fever, gives it as his opinion, that such was the case in relation to that desease; as any one may satisfy himself, by recurring to his "Enquiries".

Whilst the remarkable fact, I notice, shows the nicessity of our changing our treatment from year to year and from day to day, to suit the degree, and nature, of morbid

action in diseases classed by nosology under the same name — we are, at the same time irresistibly led to the conclusion, as we stated in the fore part of this treatise, that nosology will not serve as a guide in the practice of medicine, as vainly fancied by its founder. Diseases are continually changing. The description of intermittent fever for example given by Cullen may be very correct when applied to this class, as they presented themselves in his day; but it would give a very inadequate idea of their nature in our time; the same may said of the practice in such affections; which in the hands of thinking physicians (since their practice is regulated by symptoms not names) must ever vary with the varying character of disease. As well might the agriculturists of our land, meet with a hope of success; and determine on a certain day for the commencement of seed time, and of harvest, regardless of the different in the varieties of soil, and the various atmospherical influences, exercising, as they do, such a power, in

accelerating, or retarding, the growth of vegeta-
tion, as nosologists expect to lay down names,
and modes of treatment, for different affections,
in view of the various changes country, clim-
ate, age, sex, manner of living, et. cet. are
capable of impressing on the system so as
to alter the symptomatology of diseases,
and the indications of treatment, required for their cure.
The classes and orders of a Cullen, appear
very pleasing and applicable, arranged on
paper, in Greek and Latin symetry; but
when you bring them to the touch of
affliction, the true test of systems and of
theories, they break in a moment, like
a mere cobweb, before the breath of a
dying patient.

An

Inaugural Dissertation

on Nervous Energy

Addressed to the Provost, Trustees,

and Medical Faculty of the

University of Maryland,

for the Degree of

Doctor of Medicine

By Washington M. Ransbury

1856.

The Nervous Energy

The nature of this vital fluid has been the enquiry of all ages, and as to the present time it must be admitted that nothing is known of its essence. Its effects, both in animal and vegetable life, have been found in some important respects to be analogous with those of an agent the most wonderful in nature, the most subtle of all fluids, the most powerful of all stimulants in its action on the life, whether of plants or animals — the electric fluid.

Although science (with all the rapidity of its march) has thrown little if any additional light on its phenomena for the last fifty years, yet a few facts have been noticed whose tendency is to show that there is a similitude between the phenomena of the nervous and the electric fluids.

Whenever the properties of the latter shall be better understood than they are at present, in all probability the principle of the nervous energy will be more cognizable to the range (limited as it must always be) of human knowledge. A day, in all probability, will come when the genius of some future Franklin will make that "fifth element," and most powerful of all, better known than it now is, and trace the analogies of the subtle spark which pervades all space, with that

corporeal fine which fills the nerves with life, and heat, and communicates vitality and vigour, to every fibre of the heart and to its remotest vessels. The nature of the nervous energy may then become better understood, and that invisible agent which fans the blood and invigorates the body, be known to us by something more than its effects.

"In this view," to use the words of one who applied electrical agency to the grandest discoveries of our time, "we do not look to distant ages, to amuse ourselves with brilliant, though delusive dreams, concerning infinite improbability or the annihilation of disease or death; But we reason by analogy from simple facts. We consider only a state of human progression arising out of its present condition, we look for a time that we may reasonably expect, for a bright day of which we already behold the dawn."

The influence which electricity exerts over vegetable life, has very lately been overlooked, and even now the same fashion which dominates in Academies has rendered the doctrine of animal or rather vital electricity, as apparently ridiculous as that of electro-chemical agency was considered, before Davy by its means, changed the whole face of that science which he so nobly cultivated. Nothing, perhaps, has tended more to the discredit of this Theory than the unreasonable expectations which medical electricity called forth some fifty or sixty years ago, when it was ushered into practice as a universal remedy, and which showed the

fate of all new remedies whose powers are overrated, abused, and ultimately decried. B.T. of late years on the continent, the influence of electric fluid on vitality has again proved itself upon public attention, and in the south France whole vineyards in which numerous electrical conductors have been attached to the plants for the purpose of increasing the progress of vegetation, and of invigorating the vines. In the same manner does electricity act on the animal body, the circulation being quickened by its stimulus, and the fluids being driven through the small capillary vessels with increased velocity. Some recent discoveries of Dr. Wilson Philip have proved that the circulation in the smaller capillary tubes may continue for some hours after death, and that their current in life is not synchronous with that of the heart, and, indeed that the doctrine of the circulation of the blood is inadequate to the explanation of the phenomenon just mentioned.

The facts that are stated we have no reason to doubt; on the contrary, further experience will probably tend to corroborate them, but nothing can be more unsatisfactory than the explanation which is given to the phenomenon.

An observation of Boyden, however, throws no little light on the subject: "If you cause water," he says, "to drop through a small capillary tube, the moment you electrify the tube the fluid runs in a full stream. Electricity," he adds, "must be considered as

as the great vivifying principle of nature, by which she carries on most of her operations. It is the most subtle and active of all fluids. It is a kind of soul which pervades and quickens every part of nature. When an equal quantity of electricity is diffused through the air, and over the face of the earth, every thing is calm and quiet, but if by accident one part of matter has acquired a greater than another, the most dreadful consequences ensue before the equilibrium can be restored: nature is convulsed, and thunder, lightning, earthquakes and whirlwinds ensue".

But it is not the elements only that are thrown into disorder by these electrical changes in the atmosphere; every thing that is organic suffers by them; the vigour of plants is diminished, the animals functions are disturbed, and the nervous system, of delicate individuals, strangely and unaccountably depressed.

Who has experienced the influence of the sirocco of the south of Europe, the poisonous Kamsin of the East, or even the summer southeast winds of our own cline without feelings of indescribable lassitude, which are not to be accounted for by any alteration in the temperature, but solely to the variation in the quantity of electricity diffused through the atmosphere? In the prevalance of these winds, the air is nearly deprived of it altogether, and the nervous system is simultaneously deprived of its elasticity. In damp weather likewise when it becomes absorbed by the surrounding hu-

=midity every invalid is well aware how unaccountably depressed his spirits become, and how feebly the various functions of the body are performed, especially those of the digestive organs.
This state of morbid irritability of the whole frame continues till the north or west wind awakens the activity of the animating power of electricity, which soon revives our energies and enlivens all nature which seemed to droop and languish in it absence.
In very frosty weather, on the other hand, when the atmosphere is unchanged with electricity, there is a corresponding elevation of spirits, which sometimes amounts to an almost painful state of excitement. In our temperate climates, this phenomenon perhaps, is seldom experienced, but, in a certain degree, its influence in very cold weather is evident enough. On a frosty day, for one melancholy mien we observe, we meet a hundred smiling faces, the liveliness of whose expression is due to no other cause than that which has been just named. Rousseau has eloquently described the extraordinary elasticity of spirits which he experienced in ascending some of the higher regions of the Alps. Every traveller is aware of the more than usual lively sentiment of existence which he feels within him when he is traversing a lofty mountain.
The painful effects arising from too much electricity in the air, were experienced by Saussure and his companion, while ascending the Alps: they were caught amidst thunder-clouds

and were astonished to find their bodies filled with electricity, and every part of them so saturated with it, that a continual (sparks) were emitted with a crackling noise, and the same pungent sensations which we felt by those who are electrified by art. Carver, in his memoirs of the Russian campaign, mentions his having seen similar effects, from the escape of the electric fluid. On one occasion he says, when the cold was excessive, the manes of the horses were found electrified in a manner similar to that described by Lemonnier.

Altogether it is truly wonderful that an agent that exerts so powerful an influence on vitality, should have met with so little enquiry from the time of Priestley to that of Davy, — or at least that no discovery, except that of electro-chemical agency, should have resulted from any enquiry that may have been attempted. And that wonder is the greater, when we recall the prophetic enthusiasm with which both of those illustrious men, whom we have just named, have spoken of the wealth which science has to expect from the enlargement of our knowledge of the elements of electricity.

Sir Humphry Davy concludes the account of the extraordinary effects he had experienced by the application of electrical agency to chemical action, in these words, "Natural electricity has hitherto been little investigated, except in the case of its evident and powerful concentration in the atmosphere. Its slower and silent operations in every part of the surface of the

globe will probably be found more immediately and importantly connected with the order and economy of nature; and investigation on this subject can hardly fail to enlighten our philosophical systems of the earth, and may possibly disclose new powers within our reach"

Priestley sums up his opinions on this subject in these emphatic terms:- "Electricity seems to be an inlet into the internal structure of bodies, on which all their sensible properties depend: by examining, therefore, this new light, the bounds of natural science may possible be extended beyond what we can now form an idea of. New worlds may open to our view, and the glory of the great Sir Isaac Newton himself may be eclipsed, by a new set of philosophers, in quite a new field of speculation."

Before we conclude this subject, there is a circumstance respecting Davy and his biographer, Dr. Paris, deserving of attention. It appears that Davy, in common with many enlightened philosophers and physicians of the present day, was dissatisfied with the explanation which is commonly given of the chemistry of respiration, and the mode in which heat is supposed to be evolved by that process. Where Davy stumbled, he was not a man likely to be stopped in the search of truth, by the jargon of science, or the plausible fallacies of theorists. He accordingly applied himself to the discovery of a more satisfactory theory of respiration, and the results of his enquiry was, that the nervous fluid was identical with electricity, and that the heat that

was supposed to be evolved by the process of respiration, was effected by electrical agency.

This theory of the identity of the nervous fluid with electricity we look upon as a conjecture (discovery it cannot be called) which will one day lead to more important results than have arisen from the grandest of his electro-chemical discoveries.

His biographer tells us that "in considering the theory of respiration, Davy supposed that oxygen combined with the venous blood without decomposition; but on reaching the brain that electricity was liberated, which he believed to be identical with the nervous fluid; supposing sensations to be motions of the nervous ether or light, in the form of electricity exciting the medullary substance of the nerves and brain."

This opinion Dr Paris calls "a theory which has scarcely a parallel in extravagance and absurdity!!!" These are strong terms. Science, we think, should discard the use of harsh ones; but whatever be the fate of this opinion of Davy, the commentary has no parallel in presumption.

The theory of the identity of the nervous and electric fluid may receive little countenance for a time; it may be too much contemned to attract even the notoriety of opposition to its doctrine; it may be buried in oblivion for half a century, but the ghost of this opinion will rise again, though it may not be in judgment

against its impugners — their peaceful slumbers will probably be too profound to be inconvenienced by the resentment of the opinion they opposed. Perhaps when Lowell propounded it, he might have thought it like Kepler "My theory may not be received at present, but posterity will adopt it. I can afford to wait thirty or forty years for the world's justice, since nature has waited three thousand years for an observer". For Lowell like Kepler, had his moments of "glorious egotism", but like the astronomer he had genius to redeem his vanity.

An

Inaugural Dissertation

on

Bilious Fever,

Submitted to the examination

of the

Provost, Trustees,

and

Medical Faculty

of the

University of Maryland,

for

the degree

of

Doctor of Medicine

by

P. Barron Thomas

of

Virginia

1836

To

The Physicians and Surgeons

of

The Baltimore Infirmary,

This Thesis is most respectfully dedicated.

In testimony of their Kindness and politeness to

The Author.

Bilious Fever has been described by a variety of authors under different names; Frank termed it "Febris Gastrica"; Rush "Febris Biliosa"; Bronssais has included it (with almost any other disease) under "Gastro Enterite"; whilst many plead for the appellation of "Autumnal Remittent Fever."

Not climates particularly disposed to its ravages; Many parts of our own country, more especially the Middle & Southern States, are subjected to some of its Protean forms.

Our Physicians are taught the necessity of watching the progress of this disease with the utmost attention from the different characters it assumes each successive season; & in no case is the danger of a too strict practice better exemplified than in Bilious Fever. Its seat, like that of Intermittent from which it differs in gradually, is on the banks of rivers, swamps &c. when

"The rivers rise into offensive pools,
And changed with putrid vapours taint the groves,
And mortal nuisance into all the air".

It generally makes its appearance towards the end of summer, or in Autumn, after the juices

, as is quaintly expressed by Monro, have been highly exalted by the heats of summer". (Vid. Monro on Mili=tary Diseases p. 54).

Wet seasons with high range of temperature are prone to produce under favorable circumstances this kind of fever, whether Intermitt=ent, or Remittent — but we can easily imagine how they may have had occasionally the opposite eff=ect by completely submerging the soil, & thereby protecting it from the sun.

It sometimes appears in the Spring or winter, but I am inclined to think this only an excep=tion to the general rule; & that its "fons et origo" may be traced to an attack during the preceding Autumn, or to a previous exposure during this time in some malarious district (or to some very extraordinary circumstance perhaps giving rise to it at the time).

Symptoms —

This disease is ushered in by uneasy, disagreeable sensations, malaise as the French term it — yawning, drowsiness, languor, an aversion to all corporeal or mental exertion, & indeed there is at this time apparently a genl. depression of the whole

system. Sometimes the disease commences with a distinct & well marked chill — but genly the above symptoms are accompanied or followed by slight pains in the back, head & limbs with a creeping sensation of cold along the spine, & chilliness. Reaction takes place or in the language of Cullen the Vis Medicatrix, that presiding soul of Stahl, takes the alarm — her ener=gies are called into play — she labors to throw off to overcome this state of debility — the heart is excited, & the circulation is thrown into the ex=treme vessels. The pain in the limbs & head becomes greatly aggravated; the Epigastric & Hypochondriac regions, more particularly the former, participate in the distress; the patient is tormented by bilious vom=iting & purging (genly the former) or the bowels are constipated; the vessels of the Conjunctiva become injected; the eyes & sometimes the skin assume a yellowish hue; the eyelids droop; the urine is scanty & red, & deposites during the resolution of the fever a lateritious sediment; the respiration is hurried & frequently laborious; the skin is hot, & dry: the tongue is covered with a dirty white fur, the tip & edges being red; "Saliva insipida

amarus centies nauseosaleis affluens in fauces"; (vid. Aphorisms of Stoll p. 86); the pulse is either full, bold & inflammatory, or it may be soft & quick — this depending very much on the violence of the disease, its inflammatory or its congestive charac=
=ter — being modified by certain occult causes of which we are perfectly ignorant. These symptoms are also accompanied by an inordinate thirst — a desire for cold or acidulated drinks. If the patient drink, the fluid is immediately rejected — I well remember that in my own case even this ebbing & flowing had a grateful effect. The passage of the cold fluid seemed to allay the distressing heat.

At this time he is in the height of his distress. All fluids, aliments, every thing is reject=
=ed from the stomach; & we are now ready to ex=
=claim with Baglivi (vid. Opera, p. 50) "ventricu=
=lus precipue laborat".

Gradually these sympts abate — the skin becomes moist, the pain in the head diminishes, the distress & nausea are lessened, the pulse becomes less active, & we have a remission

though the skin remains preternaturally warm, & the pulse retains its irritable character in some degree. These remissions take place in the morning - but the calm is of short duration - all the symptoms recur in an aggravated form (Vid. Ebaly Practice of Med. Vol. 1. p. 98 - Dict. de Medicine Vol. 1. p. 279) : & thus alternating between exacerbation & remission the disease assumes a fixed character or the patient glides into a state of convalescence according to the intensity of the fever, & its treatment.

It gen'ly assumes the Quotidian, the Tertian or the Double Tertian type more frequently the last, or in its worst forms or by bad treatment it may take a continued form.

This is a description of the milder forms of Bilious Fever, but I am well aware that climate, season &c a variety of circumstances may modify it - "Una ulla Febris est, says Stoll (Vid. Aphorisms p. 67) quæ tam diversis ludat variationibus, tam differenti ratione modificatur".

Authors have pleased their fancies by giving numerous names to its different forms - such as "Gas

= tic", "Hepatic" &c – but if I were to make a division I think Inflammatory Congestive would include with sufficient accuracy its varieties. Under the former I should place the disease as it rarely exists. Here the action would vary very much in degree at different times. Under the latter I should class that form in which there is a want of action – a cold skin, perhaps clammy over the whole or part of the body only – a weak, small & usually irregular pulse – stupor, coma, or a besotted appearance – a pale, blanched surface with purple lips – a feeble or oppressed respira= =tion – great prostration of strength – but this is a frightful & dangerous form of fever; & is not so frequently prevalent, tho' it may not be mis= =matic & infectious as the other. I omitted to men= =tion in describing the general symptoms above, that fre= =quently during the height of the paroxysm delirium is present, but this rarely passes away as the fever declines.

B. Remittent. Fever is followed by various nervous diseases, particularly paralysis of the lower extremities – by dropsies, diseases of the liver & spleen &c.

Some of these affections are characterized by Periodi=
=city. It may be checked by Quinine or some of the other
tonics.

Post Mortem examination reveals inflam=
=mation more or less intense (with consequences) of the Mu=
=cous membrane and follicles of the Stomach, Intestines -
sometimes also of the Peritoneal covering; a pulpy,
congested, soft state of the liver & spleen, & occasion=
=ally lesions of the lungs & Heart, & also some other
organs (Vid. MacMichael's Practice - Bilious Rem. Fever).

Dr. Geddings in his paper on Follicular
Gastro-Enteritis (which should be studied by every one)
makes the following remark deserving the attentive
consideration of all those as yet doubtful in regard to
cattle cases in Fever. "Whatever Fever, whatever may
have been its primary form, has been protracted, I do
do not remember to have seen a case in which
some evidence of Follicular Gastro-Enteritis, either
in the form of enlargement of the follicles, punctated
redness, ulceration &c did not exist, tho' even
in some cases, it is true, but always sufficiently
apparent when the intestine was fairly laid open,
carefully cleaned, and held between the eye, &

, in strong light, or examine with a magnifying glass". (Vid. M.C.J. Journal Vol. 1. p. 76).

Indeed every author with whom I am acquainted, every Author who has examined the Cadaver in Fever since attention has been particularly directed to the subject, whether a supporter of the Miasmatic nature or not has been forced to admit that inflammation of the "villous portion of the tissue (the Membrane proper) or of the Mucous follicles" is variously exists:

The Causes are predisposing & exciting.

With regard to the former the prevailing opinion in this Country is that Remittent & Intermittent fevers are caused by Malaria, or Marsh effluvia, the peculiar nature of which arises from vegetable decomposition, & that heat & moisture are necessary attendants on their elimination. The Arguments, which the supporters of that opinion bring to their aid, should be more than superficial in me to detail - they are in every one's mouths. Dr. Stanglison has adduced the strongest arguments to show that in the present state of our knowledge, we are not warranted in

attributing them to animal or vegitable decomposi=
=tion; she has cited the authority of Dr. Ferguson to
prove that they have occured "where the soil was
a level plain of sand, with a perfectly dry surface
, where no vegitation existed, or could exist but stunt=
=ed heather" (vid. Elements of Hygiene p. 98). He
thereupon concludes that these telluric emanations
given off in particular climates & under certain un=
=known & inappreciable circumstances are owing
to the peculiar nature of the soil, of which nature
we are however entirely ignorant. Yet notwith=
=standing, I am not perfectly satisfied that veg=
=itable decomposition does not play its part in
their causation, though I do not assert that it
does. If we ascribe miasmata to the peculiar
nature of the soil, why cannot the chemist or
the geologist point out such soils? Why can
they not detect a difference in their composition?
Can we think that this same soil exists in
every part of the world, in every section of our coun=
=try? Have we not indeed the strongest reasons
for believing that this soil differs very much in
particular situations in Upper & Lower Virginia

for example? Besides there is a fact related to me by one who has been 15 years in practice there, on the very spot, which invalidates the doctrine of the calcareous soils. In Charleston S.C., in certain parts of the City Intermittent or Bilious Fever never exist, & yet a short distance off in a different part of the town where the soil is the same there fevers are very frequent! This certainly looks as if there were other agencies at work than the nature of the soil: & therefore I do not think that "in the present state of our knowledge" he was justified in asserting positively that Vegetable decomposition has nothing to do with the generation of Marsh effluvia.

Amongst the exciting causes are sudden changes of temperature, damp cold nights succeeded by hot days, indigested articles of diet, all irregularities in living, intestinal irritation, depressing mental emotions &c &c. McKintosh says "experience has taught me to believe that a person may be very often exposed to any or all the causes of fever even in the most unhealthy situations without being affected, provided his bowels be in a proper state

& his mind free from apprehension" (Wil. Prin. of Path=
=ology p. 137)

Pathology. This is certainly one of the most important points in all diseases; & yet we do not seem nearer to any fixed & settled opin=
=ions than we were years ago. We have acquired facts upon which theories have been built - but each succeeding generation witnesses the destruction of old & the substitution of new theories - & even Broussais has outlived his opinions. With re=
=gard to Fever, there have been so many opinions about its mode of production that the student finds himself perplexed in their multiplicity; & retires from the search with almost disgust, & certainly very little profit.

One of the prevailing opinions with respect to miasmatic fevers is that they are dis=
=eases of congestion - of the whole portal circle. They esteem it proper to combat this conges=
=tion; & whilst they ridicule Broussais's Gas=
=tro-Enteritis forget that congestion (what is it as they use it?) is their "Open sesame", by which they explain the whole nosology.

Malaria, say they, is a Sedative agent; it first attacks the nervous system, producing a want of power, or debility in that system, the degree of which is a debility consequent congestion of the whole portal circle of veins.

This congestion accumulates the excitability, & we have a reaction of the heart & arteries produced — this is fever.

It appears to me that this is only in working the 1st Predicament, or in other words accumulates excitability — certainly the same thing; & therefore we have no explanation, but only an assertion, that after the excitability accumulates a reaction takes place. Neither explain the 2nd mode of the production of fever — neither explain how debility can act as a stimulus to the heart & arteries!

It is useless to enter into any argument about Fever — I am satisfied with stating it as my opinion, that it is only the symptom, the <u>index</u> of local excitement or irritation, & it sympathetic with it. I believe it an incontestable fact, that whether the local

× This state of the stomach sometimes may be communicated to the liver by contiguous sympathy, through the solar plexus of ganglionic nerves, or perhaps by the blood vessels of portal system; I think that will account for the participation of the liver in the disease.

"derangement of the stomach and intestines to a primary or secondary condition, is the point to which our attention must be directed" in Bilious Fever[x]; & to which our remedial agents must be applied. (Vid. Balt. Med. & Surg. Journal Vol. 1. p. 72).

Before entering upon the treatment, I wish here to append a description of a kind of Bilious Fever, which we seldom see in this country, & which appears to me to resemble very much yellow Fever. I cannot better describe them than in the words of the Author, Mon. Wade Nicolas "Chirurgien du Centurion," which anchored in the Port of Bombay in 1804.

"15 Mars - says he - Cinq hommes attaqués hier soir; une avec violente phrénésie; il était en bonne santé quelques minutes auparavant. Il fut soudainement saisi de délire, et voulut se jeter dans la mer. A peine accomplissait de chaleur de la peau, ou d'accélération du pouls".

16 Mars - cinq hommes ont été soudainement saisis, pendant la nuit, d'un délire

furieuse, d'une grande oppression a l'épigastre, avec distention de l'abdomen, et perte complète de la mémoire. Ils ont grand désir de se tuer, et tuer les autres. Quand on excitait le vomissement, il amenait d'immenses quantités de bile visqueuse, et les soulageait le plus souvent. Ils se plaignent par intervalles de douleurs dans la tête, et l'épigastre, mais surtout a hypochondre droit." (Dict. de Med. Tome V. p. 277-8)

Treatment. Viewing the disease, as I do, as principally seated in the stomach & intestines, caused or accompanied by inflammation I cannot admit - I am of course opposed to the perturbating plan. I object most decidedly to emetics, or drastic cathartics - though there may be cases where the inflammation is slight, where the stomach is overloaded with ingesta, in which a mild emetic might be used with advantage. Sickness of the stomach, vomiting, pain in the epigastrium are some of the most striking sympt^s: I would any impartial person ever think of accounting for this other=

=wise than by irritation, superexcitement, or what=ever we choose to call it seated in the stomach?

Some of the oldest authors maintain this view— "Per nauseo febrim laedatur ventriculus" says Baglivi (vid. Opera p. 48); & "vomitus varia materia, anxietas et ardor repletionis ad prae=cordia" says Stoll (vid aphorisms p. 86).

And yet many assert that you must cure this irritation by an irritant!

Again if they say this state of the stom=ach depends on congestion—why not be consistent & give an active stimulant? Congestion depends (say they) on nervous debility—give therefore some=thing to arouse the system—you overcome the debili=ty; & the disease must vanish with the congestion dependent on the debility.

My indications would be to remove this superexcitement; & to prevent any thing from being given which has the slightest tendency to aggravate it. In mild cases, when there is not much arte=rial action Venesection may not be required, but I view it as our most powerful remedy in this disease when there is much action. The pulse of course

must be our guide – When it is bold & inflammatory blood should be freely drawn until the effects are manifest: & the sooner we do this in the disease the better, for it will cut short the attack. The most proper time for C.S. I should say, is during the Paroxysm before it has commenced declining: & Dr. Dewees declares that he has seen mischievous consequences result from inattention to this point. (Vid. Dewees's Practice Vol. 1. p. 114)

Yet if the Symptoms require it during the remission, which would be rarely the case, I should not hesitate to use the lancet. There are reasons in which the Fever appears a malignant form, & C.S. is found highly dangerous. In congestive fever we should not abs.[tain], or should do so with the strictest Caution – our Main reliance being Stimulants or revulsives I would speculate.

After bloodletting has reduced sufficiently Arterial Action we are to use revulsion in the form of Cups or Leaches (provided the Symptoms require it) or Vesicants. Blisters are also valuable agents – but I should prefer Cups or Leaches in the first instance. Frequently Blisters are decidedly beneficial when C.S.

× It is proper here also to mention, that in cases, where the stomach & intestines are not much inflamed, or perhaps where the use of the lancet is not required on this account — we may give with advantage some active cathartic (Say Calomel grs x with Pulv. Rhei grs xv — or followed by Castor oil) but we should not keep up this system of purgation for fear of increasing the inflammation.

is in admirable. Of the utility of these two agents no one who has given them a fair trial can doubt. I have seen 8 or 10 cups applied to the Epigastrium relieve pain as if by magic – cause a free flow = =of bowels – or evacuation from the bowels – follow= =ed by a gentle sleep. Together with cups we may use Sinapisms to the extremities: if the pain in the head is intense, cold applications are use= =ful. Fomentations are beneficial also. If cups, or leeches are not at hand then apply our thistles for the objection to them is that we cannot use leeches or cups after they have been applied.

But whilst we are using these means we should attend to the bowels – evacuate them by mild aperients. Injections – for the former Castor oil is decidedly the best, or Glauber powders are very good – or Salts & Magnesia. X

Refrigerants when the skin is hot, & the patient is thirsty should be freely given. Cold water in small quantities or small pieces of ice are very grateful to the patient. The skin should also be sponged with cold water.

Soda powders or Soda water may be given

: A Camphor Water combined with the former acts delightfully in relieving the Nausea & Vomiting especially by Cupfs to the abdomen.

When the skin is hot & dry, & there is no Nausea & little Epigastric Pain, many are fond of exhibiting Tart.d Antimony & Nitre. Say Ry-

Tart. Ant.et Potafs. gr j
Nitr. Potafs - - - ʒj
Aquæ Frigidæ ʒvj
fiat solutio - Cap. cochleam magn.
tertiis horis.

But for my part I should be cautious in giving Tart.d Ant.i as guarding it as highly injurious when there is much inflammation.

The Diet of the Patient should be as light as Possible - Arrow root for Example. I should like to have a statement of every dose should be assigned.

When the inflammatory Symptoms have subsided, & the Secretions continue deranged - we should use Calomel combined with some aperient - Say - Ry- Submur. Hydrarg. gr x
Pulv. Rhei gr x M.
Cap. ter in die.

During the convalescence little else is necessary than diet, gentle salines, & Nitrates if the abdominal viscera continue. When the exacerbations have become slight & the inflammatory action has disappeared we may commence with Tonics — Decoction Bark the best given solution or powder. The diet of the patient should be strictly observed for some days. & when he commences to convalesce it should be improved very gradually

If on the contrary the Typhoid becomes aggravated — the fever continue unabated — the tongue become contracted dry — delirium or Coma supervene — the evacuations continue bad — then are we to be more watchful than ever — then are we to rely principally on Cordials, mild aperients, diaphoretics & refrigerants. Slight Stimulants may be required — but are to be given with caution.

Congestive Bilious, I have said, does not admit quick of free bloodletting — we may try it; if the pulse does not rise to the arm.

Then our great draw is that of revulsion by caps to the, Nitrates & Cinchonism — warmth to the surface of the body — Stimulants if the energies should

seem to fail – Warm Drinks – Mild aperients or
enemata to keep the bowels soluble – The lowest
diet &c – but of this form I shall not enter into
any detail as to the treatment – nor have I aimed at
more throughout this thesis than the general outline
of prominent points of Bilious Fever.

This

Inaugural Dissertation

is most

Respectfully submitted

to the consideration

of the

Provost, Trustees and Faculty

of the

University of Maryland

for the degree of Doctor of Medicine

by

Felix L. Coskery

of

Maryland

March 1836

On Fever

From the earliest dawn of our science this subject has engrossed the attention of Medical men, and perhaps there is no disease to which mankind is liable the nature and pathology of which is so little understood — Innumerable have been the Theories which have been promulgated on this very intricate subject, and each has had its hour to strut upon the stage and its votaries to yield it faith — The illustrious names of Brown and Broussais are perhaps the only ones which attract the attention of modern men — The forest origin of Fever is "Accumulata Excitabilis" with the former and "Gastro-Enteritis" with the latter —

of these two theories we are led to the belief that "Accumulated excitability" is the proximate cause and "Gastro-enteritis" the consequence - Lobar Talking for example a common Intermittent fever or that fever wise remote cause is Marsh Miasm; - this Malaria when breathed produces "direct debility" of the lungs, the consequence of which is "Indirect debility" of the Portal circulation, and as a matter of course the effect is "Congestion" (right-not this congestion give rise to Broussais' Gastro-Enteritis) The Portal ~~circulation~~ vessels ~~and~~ being in this state of congestion and of course distention, "Excitability accumulates" in them and they endeavour to relieve themselves of this blood (which acts then as a mechanical irritant and produces precisely the same

effect as snuff for example would in the membrane of the nose (the Schneiderian for we know that the impression is conveyed to the brain and it calls upon the diaphragm & intercostals to assist in casting the cause of irritation off) & the nerves of the portal vessels make an effort to unload themselves and with this effort the heart and arteries sympathize and Fever is the consequence. We are aware that many objections may be made to this view, but we console ourselves that with the knowledge that it will never have as many enemies as those of Rush, Darwin, Cullen &c and a host of others for the obvious reason that few if any will take time in perusing it.

Fevers have been divided into Idiopathic and Symptomatic. The former are those produced

by common causes as cold etc.; the latter are those fevers which are the consequence of wounds for example and hence the term Symptomatic

The stages of Fever may be divided into

1st or Forming stage The symptoms of which are "Lassitude, languor, disinclination mental or corporeal exertion loss of appetite sometimes disagreeable taste, tongue generally moist, pain in the back, sometimes low spirits etc: these symptoms are followed by the 2nd or Cold stage, in which there are at first slight chills which soon become rigors, or violent shivering, skin rough contracted and pale, a great desire to yawn and change the position of the extremities, restlessness, irritability of temper The sensation of chillness extends over the

whole body, pulse loses its activity and size becoming small, contracted, frequent and firm, – The body diminishes in volume, breathing hurried, anxious and oppressed, with a short dry cough (the consequence of the direct debility of the cause,) frequently vomiting and the ejections are generally billious (another argument of portal derangement) thirst, tongue and fauces dry & clammy &c. &c." This stage varies very much in duration generally two 3 or 4 hours sometimes longer. After some time however a slight flushes of heat are felt, and the chilliness disappears in proportion as this heat increases, and finally entirely takes possession of the patient and then we have the

3rd or Hot Stage, in which we have a full & flushed countenance, the eyes suffused and sometimes red, the surface very hot and dry, great thirst & dryness of mouth, a full, strong, & frequent pulse

urine scanty and highly colored, respiration
~~is~~ free and regular, though still unnatural,
pain in the head, back and extremities,
sometimes slight delirium etc"* This stage
also varies but is generally much longer than
the cold stage and termination in the
4th Stage or Sweating - "When the perspiration
appears there is a general abatement of the
febrile symptoms - It appears at first about the
neck and breast and then gradually extends
over the whole surface, the pulse becomes soft
~~full~~ regular but is still full, etc."

Many writers suppose the patient
now to be in a state of health but this
we do not believe, for during the apyrexia the
patient generally feels languid, easily fatigued
wants an appetite, his countenance exhibits a
pale and sickly appearance" and he is in a word

* Dr Eberle

nearly all the symptoms of the Forming stage.

Of the different forms of fevers assumed by[2] our[3] limits will not allow us to speak; we will therefore go on to speak of the treatment.

Dr Eberle divides the treatment into two heads, 1st that which is proper during the paroxysm, and that during the intermission.*

The treatment during the cold stage is becoming much more common, in consequence of the fears of Congestions. To obviate this danger we must have recourse to blankets and warm drinks, bottles of warm water to the stomach and extremities, but we must be very careful how we stimulate our patients as we may increase the hot stage by them. It may be necessary however sometimes to resort to internal and external stimuli where the duration of the cold stage is great & the system

*vide Eberle's Practice

greatly
~~to~~ ~~to~~ oppressed by internal congestions ~~of~~ ~~to~~
~~pro~~ ~~t~~ Many remedies have been used
with the intention of cutting short the cold
stage and among the best is an emetic,
or a full dose of opium, and indeed I do
not see why any article that would produce
a prompt revulsive action on the system would
not do it — Must has been said pro & con
the use of the lancet in the cold stage but
viewing the disease as we do ~~we~~ congestion we ~~not~~ certainly
would ~~use the lancet~~ endeavour to relieve the
congestion by bloodletting —

It is hardly necessary to say we would
use this remedy in the hot stage, and especially
where delerium or alarming determinations take
place — Cool, bland and acidulated drinks, are salutary
a draught of cold water while the skin is dry & hot
sponging has been highly recommended with the use
of nitre, antimony & the saline effervescing
draught —X

+ Vid. Dr Eberle

To check vomiting Dr Eberle recommends Opium, he says it does not often tend to increase the violence of reaction, when given in the last stage - We should be very careful however not to give it when there was any determination to the head or before full bleeding - Opium should not be given in the disease for any other purpose except in old & broken down constitutions, or to remove some accidental affection - On a cure the patient should be put on a strictly antiphlogistic regimen, one or two cathartics of Pulv. Jalap. Dj - or the former alone succeeded by an ounce of Epsom Salts; and when the inflammatory diathesis is conspicuous, followed by nitre, antimonials, blisters etc. -

During the intermissions our main reliance is to be placed on the exhibition of Pulv. Cinchon, the preparations of Quinine, Fowlers solution etc. The time of giving these remedies has been a subject of dispute among physicians, but we are inclined

to think with Dr Eberle that three grains of the quinine given two or three hours before the paroxysm will do more towards averting it, than a larger quantity exhibited in small doses throughout the whole interval of the apyrexia – The bark in substance ought to be given in two drachm doses every hour or two within the last four hours of the intermission (Eberle) The best method for exhibiting the quinine is the following of Dr Eb –

℞. Sulphatis quinæ gr xvj
Elixr vitriol gtt. xvj
Syrup. limonis ℥j M Dose a tea=
spoonful every hour or two for an adult –

Arsenic as mentioned before has been used to very satisfactorily by many persons in from 8 to 12 drops every 4 or 5 hours during the intermission – The sulphate of Zinc as a tonic is good – Black Pepper is recommended by Frank in 5 to 10 grs. every two or 3 hours either alone or in combination with some of the bitter tonics

* Vide Eberle † Vide Journal Compliments to Dr Dick

& the dropsy & jaundice

In nearly all the secondary effects of this disease Mercury is our best remedy. Four grs. of Blue Pill with two of pulv. ipecac should be taken every night and a dose of salts every 4th or 5th day. The muriate of Ammonia has also been used successfully in chronic indurations in this disease. The best remedy we possess for enlargement of the Spleen is Iodine. Eighteen ten drops of the tinc. should be given three times daily and a mild & digestible diet enjoined. Iodine may also be rubbed into the left hypochondrium."

An

Inaugural Dissertation on Remitting

Fever, presented to the examination of

the Provost Trustees, and Faculty, of the

University of Maryland,

by Philip P. W. Stephenson,

of Virginia.

February 1836

Remitting Fever, is a disease, characterized, by continued fever, with a regular, and often a very considerable decrease, and correspon-ding increase, in the violence of the symptoms, and attended, generally, with derangement of the liver. It assumes much diversity, as to its grade of violence, occuring in its most malignant form, in the tropical climates, and becomeing milder, according to the distance, from those agencies and circumstances, which favour the production and dissemination, in its most concentrated state of Marsh Miasmata, the most universal source of all febrile diseases.

The milder Remittents of the warmer climates, and the simple autumnal remittents, of temperate latitudes; are analogous in their origin, and differ in nothing essential; there also, exists be-tween the milder Remittents and Intermittents no radical dif-ference, but they are seperately considered, as being peculiar in their general character, and requireing a modification of the same general treatment, adapted to Intermittents.

Symptoms - Languor, drowsiness, and anxiety; pains in the back, head and extremities; characterize the forming stage; Remittents are not, unfrequently ushered in, with slight chills, alternating with flushes of heat, the flush finally predominating, indicates the establishment of febrile reaction; then the pains become aggravated, particularly in the back and legs; the eyes become tinged with yellow; the tongue covered with a brownish fur; nausea sometimes, occasionally vomiting of bile; Weight, tension, and fulness in the right hypochondrium and epigastric region; anxious and oppressed respiration; urine scanty and deeply tinged with bile; full and frequent pulse; hot and dry skin, are the manifest symptoms, of the early stage of the disease; and which continue until the ensueing morning; when a perspiration sometimes, exhuding over the whole body, but generally on the superior extremities, appears; then a remission ensues, from one to two hours; when the febrile

excitement, again rises to its former violence, or beyond it, and is followed by another remission — The remission is never perfect, the skin haveing more than ordinary warmth, and the pulse remaining irritated. The ordinary mild remittent fevers, of the temperate latitudes, assume generally the double tertian, or quotidian type; the former occurring the most frequently, for notwithstanding the exacerbations occur once every day, they are more aggravated on the alternate days. The exacerbations of a quotidian, usually occur about 10 o'clock in the day; the double tertian about 12 o'clock — In the commencement, remittents are seldom violent, but are apt to assume an alarming character, if neglected beyond the ninth day, or two weeks; then there is a greater accumulation of brown fur on the tongue, with a dryness along the middle; stronger and more frequent delerium; the skin is very hot during the paroxisms and acquires a deepen tinge of yellow; the debility is greater

the bowels tender, and distended with wind; alvine discharges offensive and watery, restlessness, and retention of urine. In the hot climates, the remittents, assume the most malignant character, owing to their being a greater development of Marsh Miasmata and its being diffused through the atmosphere in a more concentrated form. In these cases, there is generally a short cold stage, and the subsequent violence of the disease, is in proportion to the slowness or impetuosity of the attack; fever soon becomes high: great thirst, and headache; violent pains in the legs, anxiety difficult breathing, weight and fullness in the stomach. An intermission or almost amounting to an intermission occurs in twenty four hours; when the second paroxism supervenes more violent and alarming, and in the third, death, or a change for the better ensues, if however, there should be no material change, and the exacerbations, continue, after the fifth or sixth day, there is great prostration, and all the symptoms attending, indicate the fatal malignancy of the disease—

The liver and alimentary canal, are the organs principally effected; consequently the terms, Hepatic and Gastric, are applyed, according as the liver, or alimentary canal is particularly deranged. In Gastric remittents, there is a redundancy of vitiated bile in the stomach and bowels, bitter taste, tongue cracked and dryed, of a dark brown colour, loss of appetite, sometimes disgust for food, urine tinged with bile, flatus, and abdomen tender to the touch, headache, pains in the legs, tongue of a scarlet red, when the black crust comes off - watery and reddish stools, retention of urine, difficult deglutition, desire for cool and acidulated drinks. The constant vomiting, without ejection of bile, the clean tongue, torpor of the bowels, the sensation of weight and fullness, and pulsation over the right hypochondrium, and the intense yellowness of the skin, are the prominent symptoms, accompanying the hepatic remittents.

The Gastric irritation, which sometimes, supervene, in rem-

mittents, not unfrequently arise from a very free use of irritating cathartics, as well as from vitiated secretions, lodged in the primae viae –

Causes – When the disease, occurs as an epidemic, the universal cause is Miasmata; but other causes may produce it: any irritating substance, lodged in the alimentary canal, may give rise to the malady, but when excited from this cause alone, there is seldom any biliary derangement – The term Gastric or bilious fever, is derived from this disease, being seated, generally either in the Hepatics, or primae viae –

Treatment – Hepatic and Gastric disorder, intestinal disorder, and febrile excitement, constitutes the pathology of the disease – To modify the febrile excitement, is the first step in the treatment, and where there is local congestion, violent headache, full, vigorous, and hard pulse, hot and dry skin, the Lancet is the best remedy, but it should not be used unless

fully demanded, by the symptoms; in all cases, where the pulse, is hard, full, or contracted, venesection should be resorted to; but in the simple and mild cases, it may be dispensed with, to advantage. Emetics have been used, to remove from the alimentary canal, the source of irritation, but their tendency to increase Gastro-Enteritis, renders them unsafe, or uncertain in bothe the mild and high grade of remittents, more particularly in the latter. Emeto-cathartics are also uncertain, Cathartics, are indispensible through the whole course of the disease, to evacuate the contents of the bowels, and should be given, unless the irritability of the stomach forbids. A combination of Proto-chloride of mercury and Jalap gr. X aa, is an excellent remedy for this purpose. To restore the morbid condition of the liver, skin, and alimentary canal, a combination of the Pulv nitrat. potassæ, ʒi Pulv. Ipecacuanha, Sub. Mur. Hyd. aa gr. xii, divided into six equal parts, and one to be given every two or three hours, and continued, every hour

until its effects, are manifested on the gums, but not to produce Salivation. Mercury in the advanced period of the disease, is rather more injurious than beneficial, and its operation, after the fifth or sixth day, is always attended with unpleasant results. If in administering calomel, with a view to its specific action; purging is excited, our end will be lost, and the remedy itself, will become an additional source of irritation; the stool in such cases, indicate irritation; they are frequent, painful, and watery, an additional quantity of Ipecacuanha, added to the Calomel, will in most cases be sufficient to remedy the, tendency of the Calomel to pass of by the bowels. In the commencement of the disease, before the system is much debilitated an active purge, of Sub. Mur Hyd. or a combination of this article, with the Comp. extract of Colocynth, or with some other article of the class, should be administered, as the most effectual means, for cleansing the primae viae, from any vitiated, secretions secretions, which

may be there, and also, for correcting the pathological condition, which gave rise to the vitiated accumulations. The effects of this agent, being manifested, the subsequent treatment, should consist of mild laxatives, such as seidlitz powder, Sulphas Magnesia, ol. Ricini &c. Sometimes in the course of the disease black bile is deposited in the alimentary canal, presenting a case where Diaphoretics may be employed with advantage, along with the others. The saline mixture, Spt. Mindereri, and bland acidulated drinks, are the best diaphoretics when you wish to employ them in this disease. The hot and dry state of the skin is well remedied by sponging the body with cold water, and allowing it to evaporate by the heat of the body. A protracted irritation, either from the imprudent use of medecines, or from the violence of the ~~the~~ vitiated secretions, lodged in the intestinal canal, often terminates in Typhus; leeches, the application of warmth to the stomach, by means of emollient poultices, the internal use of Calomel & opium, laxative enemata, emulsion of balsam Copavi, constitute the treatment.

In the malignant form of remittents, early and copious venesection, followed by the application of a sinapeism to the stomach, if the venesection did not suffice, should be premised to allay the irritability of the stomach, and allow it to retain the medicine which is to be administered; then full dose of the Sub. Murs. Hyd from gr. X to XX. should be administered every four or five hours, until its full effect is produced; in the meantime giving laxatives, where the mercury is tardy in its operation; of the laxatives the Ol. Ricini and Sulph. Magnesia are the most efficacious.

Wherever cathartics can be dispensed with, laxatives should unsparingly then. Sometimes there is a hot, dry skin attended with vomiting, and Sweet milk, Aqua Calcis and Spt. Mindereri have been used, with advantage to correct the condition, upon which this state of the skin rests; the James Powder, with small doses of calomel, constitutes one of the best diaphoretics, which can be employed, and as a beverage, acidulated drinks, particularly the turnesends water, owing to its being slightly aperient, are excellent.

In regard to the employment of Mercury, there is much variety of opinion, among those who advocate its utility in this disease, respecting the time at which it should be administered. A full hard pulse, yellow tongue, nausea, occasionally vomiting &c. presents a case, where the lancet is undoubtedly the first remedy; but the application of leeches to the abdomen, followed by gentle aperients, and withholding the mercury for a subsequent period, is not altogether compatible, with the experience of many able, and successful practitioners. Where there is manifestly, considerable irritation, in the alimentary canal, evinced by the soreness of the abdomen, on pressure the revulsive and depletive effects of the leeches, would certainly, be productive of salutary effects, and the mild operation of the laxative, would be better adapted to the removal of the vitiated accumulations, which kept up the irritation, than, medicine which in accomplishing the same purpose,

has the effect, of adding to the condition, which favoured the accumulations; but regarding the tenderness in the epigastrium, as one of the most prominent symptoms of the degree of irritation, I am induced to believe, that such a condition, requireing the use of leaches and aperients to the exclusion of the protochloride of mercury, does not generally non often occurs; for, of a number of cases which an opportunity, was afforded, of seeing this disease, and hearing the phenomena detailed, by an eminent preceptor for my instruction, I do not recollect of an instance, where soreness in the epigastrium was complained of by the patient, or that my attention was called to the existance of such a symptom. From these considerations, and my confidence, that if such a symptom had been usual, it would have been refered to by an instructor, whose care has ever been to promote my advancement, I cannot

but believe, that bilious fever, presents no condition, which forbids the use of calomel, before aperients, and the consequences, I have invariably observed to follow a neglect, to administer it in time, compared with the very general success, which attended its employment in the early stage, forcibly suggests the expediency of pushing it, before the system, is so debilitated, by the ravages of the disease, as to prevents its employment to the extent, which is necessary, Where bloodletting and aperients were made to supercede calomel, and the venesection in itself was not sufficient to accomplish the cure, the system under the influence of the disease, and the remedies, which were employed to no useful purpose, was becoming prostrated, and that prostration interposing an obstacle to the proper application, of the Mercury, which it was then manifest, must be resorted to, laid the foundation to a protracted

spel
of three or four weeks; associated with the prostration, a difficulty of procuring a passage, was an invariable consequence, of a delay, to resort to Calomel, until the disease had advanced for two or three days. (for where it was of such a character as to resist the venesection, the addition of aperients, was unable to arrest it; then a larger quantity, of mild cathartics was necessary, with other means, such as enema frictions &c. to obtain an evacuation, and when the whole acted, it was with a violence, as to require the interference of the physician to sustain the sinking powers of the patient; under these circumstances, a second dose of strong medicine was impracticable, yet in many cases, the hepatic derangement was not removed, and to fortify the system for a treatment to be directed to the restoration of that viscus to its healthy function, time among other means was necessarily made to contribute to that object; hence its

duration for three, four, five, or occasionally six weeks, where-
as under the ordinary treatment, it rarely lasts beyond the
seventh or eighth day. In acquiescing, that where there is great
irritation from morbid secretions lodged in the alimentary
canal, such an article as calomel might prove too irritating,
I am not supposeing the liver to be implicated, I allude to
where the affection is confined to the alimentary canal,
and where a cleansing of that passage, connected with de-
-pletive measures, constitute all the prominent rem-
-edies, which are requisite for its eradication; but, when the
hepaticus is in a morbid condition, when that organ ceases to
discharge a healthy secretion into the intestinal tube; and when
the symptoms, as above enumerated, indicates the unhealthy
state of that viscus, there is wanting, an article whose action
is such as to modify the condition of the liver, and restore it
to its proper functions, protochloride of Mercury in full

doses, constitutes our best remedy in accomplishing this end; and as this affection is ordinarily attended with this hepatic derangement, this remedy is very generally used, and to ensure its greater efficacy I am convinced that to it should be administered before, the vital powers of the system has been much racked; venesection being premised, then succeeded by the Calomel, followed by aperients, and repeated or withheld according to circumstances, will generally cut short a case, in six or seven days, often in three or four; this I am taught to believe is the most succesful mode of management in Remitting fever.

During Convalescence, infusions of cinchona gentian, or serpentaria, and other mild tonics, will be benefical, in restoring the digestive tone to the organs, simple diet, such as animal broths, rice &c, and the bowels should be kept open.

An

Inaugural Dissertation

On

LEUCORRHŒA

Addressed to

the

PROVOST, TRUSTEES & MEDICAL

FACULTY,

of the

University of Maryland;

FOR THE DEGREE

OF

DOCTOR OF MEDICINE

by

Francis L. Hitzelberger.

Of Baltimore.

March 1836.

To

E. Geddings, M. D. Professor

of

ANATOMY

and

PHYSIOLOGY,

in the

University of Maryland,

This Essay

Is Most respectfully dedicated, as a

Testimonial

of the esteem

In which

His distinguished Talents,

ARCHIBALD

BY THE AUTHOR.

A TREATISE
ON
ANATOMY
AND
PHYSIOLOGY,
FOR THE USE OF
STUDENTS.

BY THE AUTHOR.

Leucorhœa, (from λευκὸς, albus, & ῥέω, fluo) is a disease, which has been designated by a variety of appellations, not one of them expressive of its general characteristics. Besides "Leucorhœa" & "Fluor Albus," it has been distinguished by the terms "Fluor Muliebris;" "Les Fleurs Blanches;" "The Vaginal Discharge;" "Sexual Weakness;" "Female Weakness;" & vulgarly "The Whites." Great diversity of opinion has prevailed in the minds of medical men, respecting the true application of the terms Leucorhœa & Fluor Albus. Whilst some use them synonymously, others employ the term Fluor

Albus to designate the white discharge, which they suppose, proceeds from the vessels of the vagina, & which is unattended by any observable constitutional symptoms; but they give the name of Leucorhoea to the discharge, when it is opaque & superabundant in quantity, when the general health is much involved, & when they conceive the secretion to take place from the uterus itself. The term Leucorhoea should be restricted to the white discharge, which is secreted by the vessels of the vagina; but every discharge, from the passages, not sanguineous or menstrual, whether this discharge be mucous, serous, purulent, or of a mixed quality, has been called Leucorhoea. Therefore Leucorhoea or Fluor Albus may be defined not impro

-perly- an increased secretion of a mucous, serous, or purulent fluid, from the mucous membrane of the vagina or uterus.

In the healthy state, a necessary mucus is secreted by the vessels of the vagina, which bedews the parts & keeps their surface in a state of moisture; the most simple form of Leucorhœa can only be said to exist, when this secretion becomes augmented from any cause, & when it is excessive in quantity, or altered in quality, in consequence of a change in the function of the parts from which it proceeds. The symptoms which characterize Leucorhœa, whether it be an idiopathic disease, or symptomatic of some local disease existing in the uterus,

are, in a great degree similar. The face is of a pale yellowish colour; the lips loose their rosy hue, & the eyes their natural brilliancy; there is a sense of weakness, weight, & severe pain, in the back, loins, & in inferia extremities, attended with the discharge of a glairy transparent mucous, in considerable quantity; the functions of the stomach & intestines are impaired; the appetite is very much depraved; there is an earnest craving for indigestible articles; there is slight feverish excitement; sometimes there are symptoms manifesting a slight impairment of the functions of the brain, as headache, vertigoe; when the disease has been of long continuance, the general

health gradually declines, as is clearly made evident by the wasting of the flesh, & great reduction of the strength; & ultimately the patient becomes hectic or leucophlegmatic.

The discordant opinions, which have been advanced by different authors, relative to the true source of the Leucorrhoeal discharge, are interesting in a pathological point of view; While some contend, that the seat of the disease is entirely confined to the vagina; others consider the complaint as solely a discharge from the inner surface of the uterus. There are others again, who taking a more comprehensive view of the nature of the disease, think, that the Leucorrhoeal discharge is occasionally uterine or vaginal

& sometimes both; & this opinion certainly appears to accord more strictly with the with the general characteristics of the disease.

The cases in which it depends upon the action of the uterine surface, are probably less frequent than those which have their seat in the vagina; & moreover, it may with safety be admitted, that by long continuance Vaginal Leucorrhœa may involve the functions of the uterus, & induce an increased profluvium from its surface. Leucorrhœa may be primarily uterine. We have a satisfactory demonstration of this fact, when we take into consideration the numerous causes, which give rise to the idiopathic form of this disease; such as abortion,

- excess in the venereal gratifi-
- cation, menorrhagia, & repeated
parturition. Morgagni, speaking
of Leucorrhœa, says: "the uterus is
generally the source of Fluor Albus.
The uterus may be the source of
a variously coloured secretion, or
of serum or pus. The latter, however,
is discharged when ulceration has
taken place, either in the uterus
or vagina: The former is usually
secreted, when the inner membra-
- ne of the uterus, like that of the nostrils,
in coryza, may be affected with
a kind of rheuma."
The peculiar state or condition
of the uterus upon which Leucor-
- rhœa depends, when it proceeds
from uterine irritation, is in-
- volved in some obscurity.
Irritation of the inner surface

of this organ, like irritation of any mucous surface, is capable of exciting increased action, & consequently a preternatural or inordinate discharge, which will depend upon the degree of excitement, & assume an aspect according to its duration, whether from increased action in the exhalent arteries in the sthenic state of the disease, or from surcharged & overloaded veins in its asthenic form.

Hemorrhoids & Leucorrhœa frequently coexist in the same individuals. The observation of this important fact, has given rise to the conjecture, that they often depend on kindred causes.

Mechanical causes, an enlarged liver, venous obstruction, may induce either; & irritation is able

to effect various modifications in structure & function, an inordinate disposition to vascular activity, & a consequent state of debility.

It would be of considerable importance to discriminate between the different morbid discharges, which take place from the uterus & vagina; because frequently their character will depend upon, & therefore be a guide to the knowledge of, the nature of the disease which produces them, or the particular part which has become disordered or disorganized.

Of all the diseases to which females are liable, there is none which prevails more extensively than Leucorrhœa; it attends most of the uterine

diseases, & it is extremely common either as the result of local or general disturbance or of general debility. In many instances, it is looked upon by the patients themselves, as the cause of all the ill health, under which they may happen to labour; but in the majority of cases, it is to be viewed as a symptom, the result & effect of local or general disorder.

Sometimes this disease may be induced by local irritation; & in other cases it may be considered as symptomatic of some local disease existing in the uterus. Very often the existence of Leucorrhœa is an indication of a tendency to disease in the uterus, or parts connected with it, especially when it is profuse

- in quantity, offensive in smell, or acrimonious, in quality, about the time of the final cessation of the menses. Leucorrhœa so often depends on uterine disorganization, or some alteration in the position of this organ, that it is highly proper, where it is possible, to make a minute examination per vaginam in order to ascertain the exact condi-tion.—— It is not my intention to enter into a detailed account of the different morbid discharges, which take place from the uterus or vagina, in consequence of structural or functional derange-ment of these parts; My object is merely to consider idiopathic Leucorrhœa, a simple vaginal discharge, unconnected with any alteration of structure.

The simplest form of Leucor-rhœa consists in a mere increase of the natural secretion from the mucous membrane of the vagina. As the mucous membrane of the vagina, also lines the interior of the uterus & the fallo-pian tubes, it is easy to conceive that functional or structural disorder, may be induced in either of these parts, from the existence & operation of the known causes of this disease; & consequently Leucorrhœa be developed. Indeed by referring to the records of the science, we shall find, that cases of unusual obstinacy are related, where, on post mortem examination, the fallopian tubes were discov-ered to be the 'fons et origo' of the disorder. Numerous cases are

mentioned by authors of consid
-erable celebrity, where, in prolap
-sus uteri, the Leucorhoal dis
-charge was found to proceed from
the os uteri itself. By many of
the older writers, this disease was
thought to be merely a variety
of the menstrual discharge; hence
the term "menstrua alba".

Hoffman, Cullen, & some
others considered, that the
Leucorhoal discharge pro
-ceeded from the same vessels,
which secreted the menstrual
fluid in their healthy condition.

This opinion regarding the true
source of this affection can neither
be viewed as entirely exploded, nor
as pathologically incorrect, when
we reflect, that in patients of
weakly & debilitated habits of body,

after the regular menstrual evacuation, in consequence of the vessels, subservient to menstruation, remaining uncontracted; these vessels pour out the Leucorrhoeal discharge & this discharge continues, until the natural tone & contraction of these vessels is restored. The true source of the Leucorrhoeal discharge is located either in the vagina or uterus; therefore we have a just foundation for a division into two principal varieties; viz. vaginal & uterine. The form of this affection, which is strictly confined to the vagina, is observed to prevail most commonly; however vaginal Leucorrhoea cannot exist for any great length of time without disordering the

healthy action of the uterus, & inducing an increased morbid discharge from its surface.

Great discrepancies of opinion have prevailed respecting the nature of the altered or disordered action of the mucous membrane lining the vagina & uterus; because the shades of difference observable in many of the forms of this affection, which are presented to our view; are in a great measure dependent upon the degree of functional & structural disorder which exists in this lining membrane. The error, which has reigned predominant in relation to this affection, is that, which ascribes every form of it to debility, local as well as constitutional; & hence the remedies, that have

been employed were those most calculated to invigorate the general system. Debility is not entitled to rank as a cause of every form of this disease. In cases of long continuance more or less general debility almost always supervenes, but this is to be regarded as a symptom, the consequence, & not the cause of the Leucorrhœal discharge.

Does the diseased action of the mucous membrane lining the uterus & vagina consist in a relaxed condition of the secreting apparatus, or is it essentially & primarily connected with irritation & inflammation? it is a fact which cannot be controverted, that whenever the general health has been broken down, & much constitutional weakness occasioned,

local disoder is often the result, & such disorder may attack the uterine organs or vaginal passage, though it is not debility which affects them, but through debility a diseased action arises. In chronic cases of long continuance, it cannot be denied, that this diseased action consists in a relaxation or a passive condition of the vessels which secrete the Leucorrhaal discharge.

Again the diseased action may be inflammatory action. The forms of inflammation, which are most observed to prevail, are either the acute or subacute.

Besides inflammatory action, a very large proportion of cases depend apparently upon that peculiar deranged condition of the vital properties designated

by the term irritation. The irri
-tation which excites Leucorrhœa
is very often remote from the vagi
-nal membrane itself, so that,
by alleviating or removing the
distant irritating cause, the compl
-aint will cease.

The discharge of simple
Leucorrhœa is mucous; merely an
increase
of the natural moisture of the part;
it becomes more abundant than
in health, but retains its character
of mucous, being clear, transparent,
colourless & glutinous to the touch.
This discharge rarely continues
long, retaining the properties of
mucus; it becomes altered in its
appearance & is much more
watery. The symptoms, which
characterize this form of Leucorrhœa
proceed gradually in their progress;

in general it is unattended by pain, & there is not much inflammatory action present. The countenance is of a pale & sallow complexion; the frame weak, the pulse feeble, & easily quickened by the least exertion. The appetite is impaired or capricious, the spirits are languid, & exercise is taken with difficulty; menstruation is either scanty or too profuse; the digestion is disordered & the bowels are irregular.

There is pain in the back when the individual is fatigued, or when she remains long in the erect posture; but it is a pain of debility, relieved by rest & not permanent.

The most acute form of Leucorrhœa is most commonly the effect of cold,

of metastasis, or of some local irrita
-ting cause; & it consists of a profuse
watery or purulent discharge, accom
-panied with local soreness &
pain. It is characterized by con
-siderable febrile excitement, heat
of skin & quickness of pulse; these
symptoms often being preceded by a distinct
rigor. In cases of this description,
there is much pain in the back,
extending round the hips & down
the thighs, & though much relieved,
not removed by the recumbent
posture. This form of Leucor
-rhoea may occur in the most
debilitated, or in the most healthy frames & may be considered
accidental. Either of these forms may end
in chronic Leucorrhoea; where
the discharge is more or less pro
-fuse & constant, mucous or

purulent, or a mixture of both; it may become green & offensive & yet be the result of functional disorder. There is in this variety of Leucorrhoea a very relaxed vagina, often accompanied by prolapsus uteri; the mucous surface is smooth & glossy & has lost its natural rugæ; there is great emaciation & debility; the eyes are hollow, the face pale & chlorotic; the pulse feeble & rapid; the feet often anasarcous; the respiration short & laboured; to which succeed palpitation of the heart, dragging pain in the back, inability to exertion, & profuse nocturnal perspiration. Unless remedial measures be successful, after a protracted scene, of much general suffering, the patient dies exhausted.

Leucorrhœa has been viewed by some eminent writers in the light of a constitutional disease; this is no doubt true when it is produced by constitutional causes. It may arise, as must have been observed from the description given above, from different, & even opposite states of the system; occasionally from general plethora, but in a great number of instances from constitutional weakness & debility. In the majority of cases, this disease is induced by local irritation bordering so closely on inflammation, that it is not easily to be recognised from it; although sometimes it is to be considered as symptomatic of some local disease existing in the uterus, as cancer, polypus &c. In patients of robust & plethoric habits of body, when the

Leucorrhoal discharge cannot be ascribed to a laxity of the uterine vessels, it may be referred to a preternatural secretion of the mucous follicles of the uterus.

The Leucorrhoal secretion may be mild or acrid, mucous or serous, purulent or of a mixed quality; when it has continued for a considerable length of time, it not unfrequently acquires the virulence of gonorrhoea.

It frequently alternates with the menstrual evacuation, even with those women who are regular; sometimes it is much increased just before the menstrual period.

Those women, who are especially liable to an immoderate flow of the menses, are most subject to this affection;

& it is one of the most common attendants upon the natural decline of the menstrual evac-uation. Sometimes after conception has taken place, the Leucorrhoal discharge ceases; but if the secretion from the vagina becomes augmented, abortion may be the consequence. —

The causes of Leucorrhoea are either those which weaken the action of the secreting vessels of this discharge & leave them in a consequent state of debility & relaxation; or those which induce irritation or inflammation of the lining membrane of the vagina & interior of the uterus. Cold is a very frequent cause of acute Leucorrhoea; so also is metastasis of a discharge

from some other part of the body, though of a different character. The suppression of the menses, the repelling of milk in the breasts, the sudden checking of cutarrh & perhaps any sudden check to the perspiration may be considered as causes of acute Leucorrhoa.

A severe labour, in which the vagina has been kept long upon the stretch, or where it has been injured by officious manual interference; or the use of instruments; violent exercise, particularly dancing or riding on horseback; the excessive use of venery or pollution will often cause the inflammatory Leucorrhoa.

Of the irritating

causes we may mention, local displacements of the uterus, especially prolapsus; local tumours of the vagina or uterus, & of the latter polypus in particular. Stone in the bladder, disease of the urethra, a loaded state of the rectum, the presence of hard scybala or of ascarides. A pregnant uterus may act in this manner & also by the increased local determination of blood which pregnancy produces. The impaction of a pessary has sometimes been the unsuspected cause of a long standing Leucorhœa.

Of the debilitating causes may be mentioned frequent child-bearing, repeated abortions, profuse menstruation, & in general all the usual

tendencies to disordered health, such as hot rooms, luxurious habits, indolence, poverty of living, protracted lactation, over-exertion &c.

It is deeply to be regretted, that this disease is so often neglected in its early stages. It is frequently suffered to become an habitual discharge, & to run on, month after month, until it gradually undermines the energies of the constitution. When this deplorable state of things exists, the most experienced practitioner often has the mortification to find his best directed efforts baffled, in endeavouring effectually to eradicate this troublesome & obstinate affection.

The remediate management of Leucorrhœa, which consists either in relieving or curing it entirely, ought to be regulated solely by the character of the complaint. When Leucorrhœa depends upon constitutional debility or disordered health, our main reliance must be placed on those medicines which are most calculated to invigorate & strengthen the general system. The tonic remedies, which have gained the greatest repute, & have been found most efficacious, are those, which contain, or are combined with the mineral acids. The vegetable bitters, or the sulphate of zinc, or the bark itself, may be given three times a-day, combined with from ten to twenty drops of

the diluted sulphuric acid, or double that quantity of the old vitriolic elixer. From one to two grains of the sulphate of zinc, or any of the preparations of iron will often agree exceedingly well, & as the health improves, the discharge becomes less & less abundant. The diet should be nourishing, the air good, & occasionally changed. Besides these remedies the shower bath, or cold bathing may be used; & especially hip-bathing, or sponging the back & loins freely with cold vinegar & water, or salt water. Local remedies are rarely required in these milder cases.

In the acute form of this complaint an antiphlogistic treatment is necessary. When this form of Leucorrhoea occurs in plethoric habits general & local bleeding, saline

purgatives, antimonials, a low diet, & perfect rest are the remedies, which may be most advantageously employed. Leeches should be applied to the groins, labia, or back; & if the cervix uteri is particularly affected, to the os uteri itself, by means of a proper tube. In this form of Leucorrhoea saline purgatives & others which gently evacuate the contents of the alimentary canal are to be selected; those of a drastic character, as aloes & scammony are to be avoided. Warm hip-bathing is very useful, so also are injections into the vagina of warm water, decoction of poppies or solutions of the superacetate of lead.

In this form of this troublesome affection, & also in that,

which has been denominated chronic
gentle emetics have been highly
recommended; & they are supposed
to produce their beneficial effects,
not only by cleansing the primæ
viæ, or making a revulsion
of the fluids from the inferior
parts, but by exciting all the
powers of the system to a more
vigorous action. When Leucorrhœa
becomes chronic, when there is
reason to suspect the presence
of subacute inflammation,
or when the symptoms are merely
indicative of the existence of
irritation in the uterine
or vaginal mucous tissue,
the general health must be
attended to, according to the
nature of the general symptoms;
but in cases of this description,

the greatest benefit will arise from remedies more especially directed to the local mischief. It is this form of the disease, which has proved most trouble-some & obstinate, & for which it is advantageous to posses a variety of remedial agents.

The internal medicines which have been found productive of advantage are the balsams, particularly the copaiba; but the good effects of this medicine have not been so clearly manifested in this disease, as in the gleet or gonorrhoea of the male. The remedial powers of cubebs cannot be valued as more efficacious than the preceding article.

The cicuta has been found of service; therefore it is worthy of trial. The tincture of cantharides has been highly extolled as a specific in this variety of Leucorrhœa. The employment of this potent article of the materia medica first originated from the resemblance of the Leucorrhœal discharge to gleet; but when the variety of causes, which are concerned in production of this disease, are taken into consideration, it must appear evident to every candid & unbiassed mind, that no single medicine is possessed of the all powerful qualities of accomplishing the cure of every form of this troublesome & obstinate affection.

This medicine may be commenced, in doses from twenty

to thirty drops three times daily, & gradually increased until it causes a slight degree of staangury; when this symptom supervenes, it must be omitted until the ardor urina disappears, when it should be resumed, but in smaller doses than those which were last given & again increased until the neck of the neck of the bladder becomes affected.

Astringent medicines are also found occasionally serviceable; particularly the mineral acids with the infusion of roses & alum; the latter may be given in doses of from five to twenty grains three times a-day. The acet-ate of lead has often proved successful, catechu, kino, uva ursi powder of galls, which may be

given in large doses. Small doses of the sulphate of copper have often been employed with decided benefit.

Notwithstanding the the occasional benefit, which is sometimes derived from internal medicines in chronic Leucorrhœa, local remedies are more to be depended upon & our main reliance is to be placed in them. The local applications, which have been found of the greatest utility in this chronic form of Leucorrhœa, may be classed into the irritating, the sedative & the simple astringent; & as a general rule, it may be stated, that the first are most applicable to the

chronic states of subacute inflam-
-mation, rousing the vessels to
a more healthy action. These
consist of solutions of nitrate
of silver, of the sulphate of
copper, of oxymuriate of mercury
&c; inunctions of mercurial
ointment, fumigations of
cinnabar, or the local appli-
cations of copaiba or turpen-
-tine. The sedative
applications are most service
-able, where there is an acrid
discharge, with heat & excoria
-tion, or where there is much
inflammatory action with
local pain. These consist
of decoction of poppies, of
solutions of opium, or bella
-donna, & of the superacetate
of lead; the last mentioned

has been found productive of most advantage. Dr Locock is in the habit of using the common Gouland's extract, in the proportion of two or three drachms to the pint of distilled or rain water; warm or cold according to the sensations of the patient, & he prefers as much as half a pint to a pint to be used at a time three or four times a day. In some severe cases he has seen benefit derived from introducing a piece of lint, soaked in a liniment, consisting of equal parts of Gouland's extract, Battley's laudanum & mucilage. The simple astringent applications are most

appropriate to the cases which appear to be attended by great relaxation of the vagina, & its mucous membrane, with a chronic discharge of a muco-purulent or simply thin mucous character. All the vegetable astringents are then occasionally service-able, as well as the mineral.

Alum, the sulphates of zinc, iron, copper; the acetate of zinc; decoctions or infusions of oak bark, galls, green tea, kino, catechu, rose leaves &c. may be alternately used, or some may be combined together; but a great deal depends upon their being used freely & frequently.

In using astringent injec-tions, particularly alum,

it is advisable to wash out the vagina directly afterwards with cold water as the discharge will afterwards become coagula-ted, & remaining in the vagina produce irritation & an increase of the symptoms. When there is reason to suspect, that the Leucorrhoal discharge depends upon a loaded state of the rectum or the presence of ascarides, a soap or a turpentine clyster will readily remove both cause cause & effect. Sometimes this disease takes place in advanced life after the menstrual evacuation has ceased. In cases of this description, occa-sional bloodletting, & the free use of mild cathartics, are the only remedies which can

be depended upon. Cold lava-tions & astringent injections may produce great & sudden mischiefs, unless preceded by the antiphlogistic plan.

In some obstinate cases of Leucorrhœa, Calomel administered in very small doses has been found produc-tive of the greatest advan-tage, when there was no suspicion of any venereal infection.

In the treatment of Leucorrhœa, when it depends upon constitutional debility, or disordered health, while we are endeavouring to invigo-rate the general system by the use of tonic remedies, attention to the state of the

digestive organs should not be overlooked. By strengthening the tone of the stomach & bowels, we often accomplish the objects we have in view; & restore the functions of the uterus. The patient should have frequent recourse to the horizontal position.

When the Leucorhœal discharge occurs during the early months of of pregnancy & becomes profuse in quantity, it will be very likely to bring on abortion; therefore it is desirable to check it gradually; & the best remedies for this purpose are lead injections. Where the discharge arises principally from the uterine mucous tissue,

conception rarely takes place; & when it has occurred, the ovum is easily separated by the slightest causes, so that extreme quiet is always necessary for the first few weeks. In the latter months of pregnancy Leucorrhœa is not injurious in its consequences, on the contrary, it may be looked upon as a relief, unless it be excessive. The pressure of the gravid uterus, & the greater determination of blood to the parts, in its immediate vicinity, frequently produce symptoms of heat, weight, & discomfort, which are alleviated by the escape of the discharge. Rest & cooling laxatives with a spare diet are generally all that will be required.

Sometimes Leucorrhœa depends on prolapsus uteri; in such cases no treatment can succeed until the womb is replaced in its proper position; & this can only be done by the use of a pessary. It is to be particularly noted, that the introduction of a pessary is altogether out of the question, until the irritation & tenderness of the vagina & uterus have been subdued by general & local antiphlogistic means. When this disease is attended with a rheumatic diathesis, or with rheumatic affections, the tincture of guaiacum & probably colchicum, may be very appropriately employed.

Richter recommends camphor

& hyoscyamus, when this disease has supervened on the disappearance of a chronic cutaneous disease, or some habitual serous evacuation.

Iodine has also been recommended as a useful remedy in this troublesome & obstinate affection ——.

Conscious that I have surpassed the limits usually assigned to an essay of this description, I beg leave to offer as an apology, the importance of the subject, which has not received that share of attention from the majority of medical writers, which it is justly entitled to command.

An Inaugural Dissertation

on Croup

Submitted to the Examination

of the Provost. Trustees and Medical

Faculty of the University of Maryland

For the degree of Doctor of Medicine

by

Charles Ridgely.

Baltimore Febry 2nd 1836

Croup

This disease Consists in an inflammation of the trachea. It generally runs its course with great rapidity. and on dissection the inflammation of the mucous membran of the trachea is found to have terminated in the effusion of Coagulable lymph. It is attended by fever. and great difficulty of respiration. and this is observed to occur in paroxyms The inspirations are attended with a crowing noise Similar to the bark of a young dog or fox. and this is so very characteristic. that a person who has had it once. will on the next occasion immediately recognise it. It generally occurs in children. and most frequently between the first and the fourth year. but is not often seen after the age of puberty. this is owing probably to a change which takes in the larynx and trachea at that period. although it is much more uncommon in adults. Professor Potter states that he has met with it more than twenty times in as many years. Sometimes the Croupy Symptoms are preceded by those of a Common Cold or Catarrh. but at others

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It Comes on rather Suddenly and generally in the evening. or perhaps the child awakes with it. in the middle of the night. When the disease is fully established. the peculiar barking noise is heard. there is high fever. the pulse is hard and frequent with thirst and great heat of Skin. The appetite is often unimpaired and children hardly Complain in the intervals of the paroxysm. If the disease should Continue to progress all the Symptons are increased the breathing becomes more and more difficult. the cough more frequent. the face is livid and Covered with Cold Sweat. and the patient expires in agony. Sometimes when the disease is not very acute or when it has not been sufficiently reduced it may terminate in a chronic form. and the recovery from this State is very slow. The disease generally terminates in 36 or 48 hours when not restrained by Medical treatment. but if this is not attended to it may end fatally in a much shorter time.

Causes. It generally results from Exposure to Cold and particularly in damps and wet weather It is much more frequently met with in Spring and Winter. than in other Seasons. and for the

(above

above reasons. when it has once invaded the System the person is very liable to second attacks but these are not generally so violent as the first. Dr Gregory believes that the disease is sometimes contagious. when it assume a malignent or typhoid form. of this however I am not prepared to judge The Spasmodic croup. which is spoken of by authors is so different in its nature from that under consideration. that I shall say little on this point. The voice here is studulous the cough and difficulty of breathing occurs like the other variety in paroxysms. but the febrile heat and hardness of the pulse are wanting and different remedies are required. when we examine into the cause of the symptoms in croup or into the pathological condition. We find on dissection the trachea inflamed on its inner surface and this is covered by a layer of false membrane or the coagulable lymph. It begins below the larynx and extends along the trachea to the bronchia. in these we often find considerable semi purulent fluid. we sometimes find loose floating portions of this membrane. and when the air passes from the lungs in expiration it may be through across the opening of the trachea

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and induce suffocation. It is then evidently owing to the formation of this membrane and the semi purulent fluid that death is occasioned by closing or obstructing the air tubes and thus preventing respiration. this membranous substance is analogous to the fibrin of the blood and is a secretion from the inflamed blood vessels. as this membrane and the accompanying effusion are the cause of death. we should endeavour to prevent this Condition (or 2nd Stage) from occurring by the most vigorous antiphlogistic treatment. If this is neglected and the 2 Stage is suffered to come on. there is little hope for the patient unless the efforts of nature should prove sufficient to throw off the membrane. or this is aided by art. But this is a feeble hope. and it is only previous to effusion that our aid is of much utility.....

Treatment. when we are called to a case of Croup if we find the Cough Violent together with the sharp ringing or Crowing Sound the skin hot. pulse hard and frequent we should not hesitate for a moment to take blood. the disease is progressing rapidly and demands our immediate aid. under these Circumstances we should abstract blood Copiously. paying strict attention to the System Stage of

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the patient and regulating the quantity tobe ab=
stracted by the effect Produced on the System
Some have prefued taking blood from the jugu=
lar vein. but this is Sometimes difficult to be ac=
complished in Consequence of the Struggles of the child
and moreover is generally objected to by the parents
It is much more Convenient to perform Vs in the
bend of the arm. and probably it is here of Equal
utility in young children. we should be cautious
not to carry our depleting measures too far.
and in very young Subjects leeches are perhaps pre=
ferable while we obtain the goodeffects of
general blood letting viz. reduction of the action of
the heart and arteries. we should not neglect the
employment of these and other agents. which de=
tract blood immediately from the parts affec=
ted and Produce a beneficial influence by Counter
irritation Dr Dewees - is of opinion that leeches do
harm by causing a necessary exposure of the
Surface of the throat to Cold as well as by the Gener=
al irritation they occasion to the patient. But it
is probable that these effects might be in a great
degree prevented by caution. after we have drawn
blood from the System. either generally or locally
and thus Subdued in Some degree the arterial

(action

action we should then have recourse to Emetics next to blood letting. these are Certainly the most useful remedies they, (particularly the antimonial Emetics) exert a sedative influence over the heart and arteries diminishing their actions by the nausea which they produce at the same time they Equalize the Circulations and determine to the Surface after Vomiting. different Emetics have been used but in general the preparations of Antimony fulfil our indications best. The wine of Antim Tart may be given every 15 or 20 minutes until it operates in Some cases. Ipecacuanha or squils may be given particularly in the milder forms. after the bleeding and the Emetic the respiration is much easier. the cough less. pulse softer. and the skin less hot than before to insure the Continuance of this favourable condition we should have recourse to the warm baths. This is a most valuable auciliary in the treatment of this disease it determines to the skin. and by its Soothing and tranquilizing influence has a tendency to subdue inflamation. If it has not been already done we may now apply leeches to the throat or a mustard Poultice or a blister to it, these do good by exciting a new action in the skin and determining the

(blood

blood from the mucous surface of the trachea to the skin. Dr Gregory objects to the application of large blisters to the throat. he thinks that the irritations may extend inward to the trachea and thus all the symptoms be aggravated. In this case it might be applied at a short distance from the part affected. Purgatives should not be neglected and among these Calomel is of the greatest utility. It has been frequently given in small doses every 2 or 3 hours and with great success by Dr Hamilton of Edinburgh. It would seem however that it is better to prescribe it in large doses and obtain the more useful effects of a cathartic by removing the irritating contents of the bowels and exciting the secreting of bile it is of service and also by its counter irritation A Combination of Calomel. Tart Emetic and Nit potash is often of great utility in reducing the inflammation and Equalizing excitement Sometimes after bleeding has been repeated and the System Considerably reduced Although not sufficiently digitalis is of great service. In cases where Emesis is strongly indicated and is effected with difficulty

(professor

professor Potter recommends the employment of the Bi chloride of mercury or the corosive Sublimate ℞ one grain may be dissolved in an ounce of Water and a tea Spoonful given every 15 or 20 minutes till full vomiting is produced. he has often Succeeded by this remedy in Saving the life of the patient by the judicious management of the means here laid down, we shall generally succeed. but in all cases it is necessary to act promptly and Constantly to be on our guard, against the recurrence of the disease when from neglect or violence of the Complaint the disease has reached the 2 stage there is generally small prospect of Success. Even here however we should not despair but endeavour to dislodge and cause the discharge of the false membrane so far as may be in our power. for this purpose the expectorants have been employed. the Seneka Snake root has been given in the dose of a Tea Spoonful every 20 or 30 minutes. a solution of Gum Ammoniac and Asafœtida has also been used. warm water and Stimulating Vapours of different Kinds have also been employed. Emetics by producing a shock and pressure on the lungs Sometimes succeed

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in removing portions of the membrane together with much mucus, the Sulph Cupri would seem to be here of the most efficacy. It has been proposed in this last stage to perform tracheotomy and this has sometimes succeeded. But its utility in general is very limited in as much as it does not remove that portion of the membrane which extends into the bronchial ramifications and also the mucus which is accumulated in them. Indeed D. Cheyne quotes a case where the membrane was twice discharged by the operation of Emetics and yet the patient died — I think however that in cases where every other thing has been resorted to that this last hope should not be left untried. Even should we only succeed in One case out of many unsuccessful ones we shall still have the noble satisfaction of having performed our duty and that we have saved the life of a fellow Creature —

Dissertatio

de

Pneumonia Biliosa.

Auctore,
Cyro Waters.

Baltimorii:
1836.

Professoribus

in

Collegio Marylandico

hoc opusculum reverenter dedicatum est, testimonio animi memoris commodi et voluptatis, quæ eorum præcepta mihi attulerunt.

Auctore

Cyro Wales.

Ob eam causam, quod mos et lex Collegii dissertationem de nonnulla re medica scribere cogit, non quod aliquid novum exponere possem, hoc opusculum feci. De Pneumonia Biliosa scribere malui, quoniam alteros ab ea tentari non solum vidi, verum etiam egomet laboravi: et, variante auctorum circa methodum medendi, ipsorum opinione, remedia, quæ profuerunt casibus, qui mihi obvenere, simpliciter annotavi. Hi casus primo inflammatorii omnes fuerunt; sed in paucis inveni tantam sanguinis missionem esse necessariam, quantam auctores nonnulli commendant; nec in iis, quibus signa putrida accesserunt, stimulantia tam necessaria, quam alii, judicavi. Sanguinis missio, Cathartici, diaphoretici, et epispastici, pro re nata, morbo oppositi erant, et omnes ægroti convaluere; hinc non multa de stimulantibus dixi.

De Pneumonia Biliosa.

Morbus, de quo tractaturus sum, varie appellatur auctoribus, qui nomine certo suam de ejus natura sententiam exponere voluere: sed, et jecore et pulmonibus morbo affectis, fortasse Pneumoniam Biliosam rectius nominemus. Antiquos non descripsisse quanquam apparet, antiquissimus gentem humanam certissime tentavit: incolæ enim omnis pagi paludosi, qui miasmata exhalavit, ei obnoxii fuerunt. Miasma paludosum functionem jecoris perturbat, et facit in morbum prædispositionem; eiamsi mutatio temperiei subita plerumque sit causa occasionalis. Hinc quum hiems et ver humidum et varians, autumnum sequitur, in quo multos corripuit febris biliosa intermittens et remittens, hic morbus sapissime crescit. Miasma, quod illi per æstatem inhalavêre, quanquam non morbum sensilem facere, tamen functionem jecoris perturbare sufficit: quo facto, causæ minores valitudinem adversam creare possunt. Hæc prædispositio hepatica, dum veniat hiems, incomperta fere remaneat, et, morbo non excitato, crebrius abiit. Dum pagos paludosos habitant, ad cegrotationem hepaticam perpetuo proni videntur: et fere omnes morbi, qui illos corripiunt, signa biliosa habent. Causæ, quæ in corpore

sano et integro simplicem pleuritidem, in propensa, morbum multiplicem, et conjunctum cum affectu hepatico concitant. Aliquando, morbo incipiente, jecoris affectio fere appareat: sed tamen agrotus, bile multa et morbida ex primis viis remota, febre maxime levatur. Aegrotum, qui miasmati obnoxius erat, in pleuritidem incidere vidi, nec affectionis signa hepatica, amaritudinis gustatu excepto, aderant ulla: sed hydrargyri protochloridi dosis prima bilem multam nigram removit, atque postea febris magna remissio apparuit. Sed saepe affectio hepatica dolorem lateris antecedit. Omnes morbi ad remissiones miasmate praeparantur: et quum pagi paludosi incolas conficiunt, medendi methodus est paulum mutandus; et cum medelis primi morbi illas, quae bilis secretionem morbidam sanare possunt, conjungamus. Incolae pagi paludosi, et quicunque in autumno febri biliosa laboravere, et non penitus curati sunt, ad morbum pronii maxime inveniuntur.

Dicitur ut infantes et Africani sunt minus saepe affecti: illorum tres, qui minores erant annis duodecim, et horum quatuor in eum incidere vidi. Sed infantes morbum sanari facilionem habuerunt.

Membrana pulmonum mucosa irritabilitas, aëris contactui exposita, frigore et subita temperiei mutatione valde augetur: et hinc Pneumonia per hiemem

et ver crescere solet. Aër nocturnus, habitus mutatio humor frigidus ad pedes applicatus, et quodcunque diaphoresin subito impedit, causæ occasionales sunt. Harum multæ autem primo afficiunt subinde jecur et pulmones: inter eos enim sympathia tam magna est, ut quicquid illius functionem impedit, hos etiam perturbat. In thorace pulmones interdum soli, sed sæpe etiam pleura, trachea, bronchia, pericardium, et diaphragma inflammata sunt. Jecur prodispositum, partim e sympathia cum cute et pulmonibus, et partim e vi actionis arterialis aucta, in morbum cadit. Encephalon, jecure ægroto, affici solet; et quanquam non phrenitis, tamen sæpe adest cephalalgia. Sed sine dubio meninges plerumque inflammatæ sunt, et interdum cerebrum suppurat.

Languor, amaritudinis gustatus, cibi fastidium, rigores, et dolores errantes initium morbi indicant. Constans, et magnus sincipitis dolor, et etiam aliquando delirium adest: facies rubor, et oculi sanguine suffusi. E dolore lateris, aut thoracis, aut etiam dorsi laborat ægrotus. Nausea gravescit, et bilis vomitio denique accidit. Regio hepatica sæpe distendi videtur, et tam tenera est ut levis dolorem augeat pressuram: et bilis absorbentibus imbibita conjunctivam et urinam colorat. Respiratio accelerata et laboriosa, et, pleuritide ar-

dente, a diaphragmate præcipue facta; thoracis enim dilatatio, pleuram inflammatam distendens, dolorem auget, et tussim, quæ aliquando gravissima est, renovat. Tussis primo sicca est, sed, vi morbi subacta, fit humida: sputa sunt flava, interdum copiosa, et sæpe sanguine colorata. Ægrotus, cum latus inflammato, affecto facilius jacet: sed pleuris ambobus inflammatis, dorso solum jacere potest: nonnullos sedentes, alteros decumbentes minorem pati dolorem inveni. Lingua primo alba, et humida; sed, morbo crudescente, flava, aut subfusca: et, signis maxime putridis, nigra et arida. Cutis fere ist calida et humida, sed interdum ardens et arida: atque truncum ardentem, etiamsi extremitates essent frigidæ, vidi. Pulsus frequens et celer; aut parvus, aut latus: præsens leviter resistat, et nonnullis casibus intermittit.
Perspicuum est morbum, spe periculosum: partes enim correptæ, et inflammatæ ad vitam maxime necessariæ sunt, et e functionum cessatione mors est certissime inferenda. Jecore et pleuris ambobus implicitis, vim morbi sustinere ut ægrotus non posset, expectandum est: sed tamen hominem, qui vix decumbere potuit, cui hypochondrii dextri tractatio maximum intulit dolorem, convalescere vidi.
Cadaverum dissectiones, quas auctores annotaverunt, probant naturam jecoris et pulmonum ita interdum

mutari, ut functiones proprias non perficere possint
jecur suppurat; pulmones, vitate naturali omissa,
sint instar jecoris facta: pleura crassescat: serum
in cavitatem pleuræ effusum sit, et etiam in cere-
bri ventriculis.
Varietas nominum, quæ huic morbo dederunt auc-
tores, variosque methodos medendi fecisse videtur: appel-
latio enim typhodis multos credere, ut sola prodesent
stimulantia, duxit: atque dictum est, ut minima
sanguinis missio prostrationem fatalem agroto infert.
Sed esto typhodes: non causa est, cur in principio
antiphlogistica non sunt adhibenda: medicus enim
clarissimus Armstrong, ut incipiens febris typhodes
venæsectione, et aliis antiphlogisticis optime tractatur,
certissime probavit. Dissectio morbum inflammito-
rium demonstrat: et cur aliam inflammationem a-
lio more tractemus! Sed sanguinis missio, quanquam
est utilis, tamen tanta, quantam nonnulli adhibere
suadent, non necessaria videtur; et multis in casibus
sine detrimento omittitur. Morbi curationem, pulsu
duro, et respiratione laboriosa, mittendo sanguinem,
pleno rivo, dum pulsus erit affectus, ingrediemur: sed,
nisi morbo incipiente, sic libere non est mittendus. Si
organa interna cum sanguine infarcta, cutis frigi-
da, pulsus imbecillis, et reactio tarda, modus san-

quinis parvus ex orificio angusto mittendus est: venæsectio enim libera vitam auferet. Magna sanguinis missio, apto tempore, dolorem mollit, et morbum frangit: quo facto, plerumque in posterum venæsectione non opus est. Non semper prænosci potest quantum una vice mitti oporteat: modus enim, qui alium in syncopem cadere faceret, alterius pulsum non afficeret: sed uncia quindecim, vel viginti vulgo sufficiunt. Si venæsectio sit iterum adhibenda, modus est minor detrahendus: sed ægroti quamquam vires magna sanguinis detractione fracta esse, uncia tamen sex aut octo omissa prosunt. Dolorem, morbo flagrante, venæsectio non solum mollit, verum etiam ægrotum ad majora commoda e medicamentis accipienda præparat. Sed per se venæsectio morbum sanare non potest: secreta enim morbida et acria canalem alimentariam irritant, febremque augent; et hinc purgare necesse est. Non tantum de cathareticis quantum de venæsectione auctores inter se dissentiunt; et in casibus, qui mihi obvenere, remedia erant efficacissima. Sanguinem emittere, nisi morbo incipiente, et viribus ægroti depressis, sed non fractis, periculosum est; verum postquam abiit stadium ad venæsectionem idoneum, cathartica fieri necessaria: et alvum per totum morbum leniter moveri prodest. Jecur

bilem morbidam sæpe secernat multam, cujus irritationem præverteræ purgando oportet. Cathartica secreta acria non solum expellunt, verum etiam sanguinis stagnationem in vasibus hepaticis removent. Secretiones aegras corrigunt, et emendant; atque faciendo ut glandulæ serum multum secernant, antiphlogistica sicut efficacissima. Ad secretiones corrigendas maxime potest hydrargyri proto-chloridum; hinc in omni morbi specimine ad purgandum, si non ad ptyalismum faciendum adhibeamus. Secer interdum bilem secernat nullam: hoc in statu proto-chloridum est ad secretionem renovandam utilissimum. Grana quinque aut decem, morbo ingravescente, quaque hora quarta, sint adhibenda; et si alvum non satis moveant alia purgantia intervallis sumenda. Ægroto nauseante, quinque grana aquæ ac viginti solent vomitum concitare: et, quoniam stomachus summum dosis minoris ejiceret, majorem primo adhibere oportet; hujus enim satis alvum movere aut retentum: quo facto, nausea decrescet, et postea doses minores sint. Si proto-chloridum per se non satis purgat, Magnesia Sulphas, Oleum Ricini, aut mistura Jalapæ et Potassæ bitartratis utilis est: cathartis enim copiosa, morbo incipiente, maxime prodest. Sæpe est multum in stomacho acidum; hinc mistura Magnesiæ

Sulphatis, et Magnesia Usta est utilissima. Proto-
chloridum sine aliis cathareticis nonnullis diebus
adhibentes, fortasse ptyalismum concitemus, id quod,
incipiente morbo, precipue evitare oportet. Irrita-
bilitatem auget, et concitatus priusquam intestina
sint perfecte expurgata, morbum vix sanabilem red-
dit. Ptyalismus vulgo non necessarius; sed quum jecur,
acuto morbi gradu prætérito, implicitum chronica in
flammatione videatur, fit remedium efficacissimum.
Interdum bilis secretio totaliter cessat, et quum hydra-
gyri protochloridi sit renovata (id quod egestorum co-
lor indicat,) prima viæ sint celo expurgandæ, ne
acri et morbida bile perpetuo irritentur. Si plura
cathartica adhibere oportet, e colore faciem noscatur;
purgatio enim necessaria, dum sint aut nigra, aut
viridis; verum ubi sicut naturales, purgare haud
necesse est.
Nonnulli auctores clarissimi emeticos commendant,
et certe in morbo utiles videntur; sed eos adhibere,
quum cerebrum, aut jecur, aut pulmones sint con-
gestione gravissima, aut ardente inflammatione
implicita, est ineptum: Sanguinis enim nimi-
um in pulmones expletos impellunt, et aut in-
flammationem augent, aut vasa sanguinea in
discrimen ruptionis adducunt; et concussio ab-

iis facta dolorem maximam concitat. Sunt præcipue dicti morbo initio utiles esse; et, morbo incipiente, ante congestionem et inflammationem interdum prosunt, et etiam valitudinem restituunt. Nausea, quum sit a bile in stomachum introcumte concitata, emeticis sæpe levatur. Cephalalgia est plerumque sympathetica, et mota ab digestione gastrica et hepatica; hinc, ea ab emeticis sublata illa etiam tollitur. Illi secreta acria in stomacho contenta non solum ejiciunt, verum etiam visceum concussionem, quæ pavam congestionem removet, faciunt, et in cutem sanguinem impellunt. Salutarem movent diaphoresin; et fortasse debilitas temporalis, quæ facta est ab eorum actione peculiari, et morbum gravescere prævertit, et favet recreationi. Veniente morbo quanquam non occurrant, nauseam tamen minuunt, et alia remedia, post eos sumpta, majora commoda inferunt.

Morbo flagrante, ut maxime prosint diaphoretici, non est sperandum; verum postquam inflammationem venæsectione et cathartics repressimus, cute calida et arida, refrigerentes sunt utilissimi. Nauseantia interdum prosunt; sed stomachus sæpe est tam irritabilis, ut hæc remedia perpetuum concitant vomitum, et debilitatem maxime augent. Magna

est inter cutem et jecur sympathia; et, hoc agisto, illa perrare sana; hinc in cute salutarem secretionem facientes morbum internum levamus. Restituta secretione hepatica, quum stomachus non valde irritabilis est, hanc formulam prodesse vidi:

℞ Potassæ Nitratis ℥ii
Antim. Tartariz. gr ii
Aquæ fontanæ ℥vi. M. capiat cochl. magnum quaque hora tertia.

Nonnulli misturam Pulvis Antimonialis et Potassæ Nitratis commendant. Si cutis sit arida, et secretiones morbidæ primis viis libere expurgatis, doses hydrargyri protochloridi parvæ conjungantur, et hæc mistura alvum movet, secretiones emendat, atque cutis functionem restituit. Nauseantia quoque sputorum excretionis favent, quæ pulmones congestione laborantes maxime levat. Expectoratio fieri non potest, si pulmones sint valde inflammati; hinc nulla expectorantia, nisi quæ nauseam concitant, et inflammationem sopiant, sunt in hoc morbi gradu idonea: stimulantia, dum vis morbi erit subacta, lædent.

Diaphoretici repigerantes sunt vulgo utilissimi: sed quum cutis arida et calida, pulsus debilis, celer, et frequens, aderalque delirium, et magna musculorum debilitas, Spt. Nitr. Dulc., cathartici sumptis, multum prodesse vidi: et mota diaphoresi, ægrotus convalescere

incipit. Opium ad tussim frequentem levandam sumptum est; sed pro tempore quamquam supprimat, tamen, ut stimulans plerumque noceret, necesse est. Morbo incipiente, remedium non innocens, nisi cum aliis diaphoreticis conjunctum: sed quum tussi, aliis signis remotis, permaneat, fiat utilissimum. Demulcentia tussim levant; et quoniam lædere non possunt, in omni morbi gradu potanda sunt.

Remedia externa sunt interdum utilissima. Cataplasma calidum dolorem mollire efficax, quum inflammatio tam ardens, et febris tam erat vehemens, ut nocerent epispastici, inveni: sed fallax est remedium, et ei non confidere oportet; doloris enim causam sustollere non potest. Epispastica si apponantur priusquam venæsectione, et cathartici nisi sumuntur, febrem augent, sed localem inflammationem non reprimunt. Si sanguinis missio et cathartis dolorem, et respirationis laborem non removeant, epispasticus est utilissimus. Si cutis et trunci et extremitatum calida sit, ad partem dolore laborantem apponamus; et simul ac vesicas concitare incepit, plerumque mollit dolorem. Dum extremitates, trunci ardent, frigiscunt, epispastici aut sinapismi ad suras et antibrachia apponendi sunt.

Stimulantia et tonica, rarius sunt necessaria; et ea cautissime adhibere oportet, ne inflammationem exasperent, et injuriam fatalem faciant. Egroto convalescente, febrim novam concitent, si sint incaute sumpta. Obveniunt tamen casus, quibus maxime prosunt et stimulantia, et tonica: morbus enim aliquando est vere typhodes. Sed diaphoretici stimulantes vulgo sufficiunt. Infusionem serpentariæ Virginianæ, aut polygalæ senekæ, aut camphoram, aut spiritum Mindereri adhibeamus.
Si egrotus est imbecillis et debilis, et stomachus non bene degerat, febre discussa, tonica recreationi favent. Legenda sunt illa, quæ non multum stimulant. Optima fortasse acida minicralia: stomachi tónov augent, sed non arterias excitant. Tincturam acidi sulphurici ter in die sumptam prodesse vidi.

Remedia quanquam efficacissima adhibeamus, inflammatio tamen chronica thoracis nonnunquam obveniat; id quod vidi, etiamsi missio sanguinis copiosa, et catharsis libera morbo erat opposita. Si miseria perpetua, et nonnulla dyspnœa, ægroto se ipsum exercente, adsit, parti affectæ unguentum antimonii tartarizati, aut hydrargyri præcipitati albi affricemus, dum pustulas

excitemus. Et si pulsus celer et durus, sanguinem emittere oportet. Digitalis quoque bis aut ter in die sit sumpta; et si effusionis signa adsint, prodesse scilla dicitur. Sed si medela idonea in primo morbi gradu sumpta fuerit, effusio in cavitatem pleuræ obvenire perraro potest.

An
Inaugural Dissertation
On

Epilepsy.

Addressed to the Provost Trustees

and

Medical Faculty

of the

University of Maryland

for the degree of

Doctor of Medicine

by

Upton H. Lawrence
of Maryland.

March 1836.

Epilepsy

Epilepsy is a convulsive disease, characterized by the violence and suddenness of the attack, occurring in paroxysms at uncertain periods, producing temporary loss of sense and voluntary motion.

The paroxysm comes on suddenly, sometimes without any previous symptoms of its approach, but most generally it is preceded by certain symptoms varying in different individuals.

The symptoms that precede the attack are numerous, among which are the following; an unusual and peculiar feeling of uneasiness and fullness of the head, sometimes violent headache, imperfect vision, flashes of light before the eyes, tinnitus aurium, uneasy sensation in the precordial region, spasmodic twitching of muscles particularly of the face, drowsiness &c. But the most peculiar and extraordinary symptom is the aura epileptica, it is one which occurs in no other disease. It commences in the extremities or some part distant from the head, and creates a sensation similar to that produced by a stream of cold air directed on the part and proceeding

gradually as if it were pursuing the course of a nerve, until it arrives at the head and the attack immediately supervenes. Van Swieten has suppos ed that the aura was produced by some irritating substance at the point from which the aura start ed, but no doubt can exist that it is only symp tomatic, the primary cause being seated else where most generally in the brain. For al though it has been asserted that spicula of bone and other irritating substances have been found at this place, yet it is not generally the case, and indeed they are only exceptions which occur but rarely. In the many cases which have been examined, no unusual appearance was found at this point, no irritating substance, no unhealthy action, and the only conclusion we can arrive at is, that it is a symptomatic affection, and the manner of its production wholly unaccountable.

The attack as we before observed comes on sud denly, sometimes with a wild frightful shriek uttered as if the person was suffering intense ago ny or extreme fear, then falling down in a state of insensibility, succeeded by violent con

vulsions of all the muscles, but more particularly those of respiration and expresion. The patient appears to writhe in extreme agony, the eyes roll wildly about, sometimes the tongue is thrust violently between the teeth and is severely bitten, the phlegm collects in large quantities in the mouth, covering the lips and nostrils with froth. The face is sometimes pale, but generally livid, the respiration hurried and laborious, the pulse various, sometimes remarkably slow, but generally it is contracted, irregular and frequent, and the heart palpitates violently. After some time the symptoms abate, the paroxysm varying in duration from a few minutes to half an hour; in some instances ceasing suddenly, but generally, gradually. The pulse becomes fuller and more regular, respiration freer, and all the symptoms abate; the patient either falls into a deep sleep immediately, or recovering gradually stares wildly about totally unconcious of his situation or anything that has transpired. His judgement is generally temporarily impaired, a feeling of

debility, and weight in the head as if he had recovered from a deep sleep after a debauch.
In a large majority of cases one paroxysm only occurs at a time, but in some instances one paroxysm after another succeed in rapid succession until the patient becomes comatose and dies. But this seldom occurs, a patient rarely dying from epilepsy, unless the attacks are so violent or the disease so long continued that it produces apoplexy. The interval between the paroxysms differs in almost every case, in some returning at regular periods, in others at uncertain and irregular intervals, in some cases recurring periodically at every full moon, in others occuring daily or oftener, and in some instances, a year has elapsed without a return.
Epilepsy if permitted to run on unchecked, almost invariably produces imbecility, idiotism or mania; and although it generally terminates in apoplexy, a total loss of all the intellectual faculties almost invariably precedes this state producing perfect idiotism accompanied by a peculiar idiotic, vacant appearance of the

countenance. But to this there are some few exceptions, persons who have from their youth been subject to frequent attacks of epilepsy, have suddenly recovered not only from the disease, but have also displayed an extraordinary vigour of mind on arriving at a mature age.

Examinations after death of epileptic subjects, and the pathological appearances which have been observed, have contributed but little, indeed if any, in giving us correct views of the pathology of this disease. Various appearances of the brain and its membranes, both the cerebrum and cerebellum, and also of the spinal marrow, have been observed, but throwing no light on the subject. And in the digestive organs the presence of worms and innumerable other appearances have been observed; but after all the numerous examinations, we can arrive at no satisfactory conclusion of the remote cause of this disease, but one, which is that epilepsy generally depends upon a morbid sensibility of the brain which may be either hereditary or acquired.

This disease is produced by a variety of causes, a morbid mobility of brain and nerves, in many cases owing to a natural malformation at birth which is inherited. No doubt can now exist of the fact of epilepsy being hereditary, too many instances have been observed in which it has been transmitted as an unavoidable legacy from father to son, from one generation to another, for ages. It is not necessary for a parent to be epileptic to entail upon the child this disease, this peculiar state of the organs may exist in an individual without producing epilepsy, he may during his life be subject to apoplexy, idiotism, mania or palsy, but the intimacy existing between diseases caused by this predisposition, is sufficient ground for us to suppose that an epileptic child descended from such parents, has inherited it from them. It is unnecessary to consume time in proving that it is hereditary, as the observation and experience of all physicians has established the point beyond a doubt. Dr Cullen has described another kind of epilepsy

which he has called epilepsy occasionally which he says is caused by a deranged state of natural functions. But some doubt exists as to whether true epilepsy can occur without the peculiar predisposition which we have before mentioned, is present in some measure. It is true that it must not necessarily exist at birth, for some peculiar circumstances may produce it in after life; persons of a melancholy irritable temperament who lead a sedentary, studious life, taking little or no exercise have frequently been known to acquire this predisposition. Perhaps in no disease has such a variety of causes been given as in this one, but when examine it properly, we will find that a majority of these causes depend upon there being a predisposition to epilepsy, for without this a large number of these exciting causes never would produce it. From the causes that this disease arises from, it has been divided by all writers into two general

varieties, Epilepsy occasionalis and cerebralis, by Dr Cullen, and Symptomatic and Idiopathic by later writers. Children are more liable to this disease than adults and females than males, and the age of puberty in females appears to be the period at which it most frequently occurs. It has been observed that those who have had epilepsy and been cured, are liable to have a recurrence of it, upon any exciting cause occurs. Dentition in children has frequently produced it, but most generally when this is the case they are predisposed; anything that causes irritability of the stomach or intestines, it has been said will produce it, but Dr Potter says it will not unless there is a predisposition. But when this predisposition does exist, no cause so frequently excites the disease as the presence of worms in the intestinal canal, especially in children. Many of the vegetable poisons have also caused it, and perhaps none more frequently than the stramonium, which grows

so abundantly in our own country, and has produced decidedly more cases than any of the vegetable poisons. Some of the metalic poisons also, particularly lead and aasnic, also the excessive use of opium have produced it. Suppressing habitual discharges has also excited it, healing old ulcers or drying up sealons or issues suddenly. Amenorhea and Dismenorhea, also Tinea Capitis, Psoriasis or any of the cutaneous diseases suddenly cured, are frequently the exciting cause, when there is a predisposition. It has been called the blacksmiths disease in England from its occuring so frequently at that time, owing to the high degree of excitement produced by the passions and the large quantity of alcoholic liquors drank. The habitual use of intoxicating drinks has frequently excited it, owing to the constant state of excitement in which the system is kept, producing plethora and a determination of blood to the head. Biliary and urinary calculi, particularly when they are passing

along the ducts, at which time the produce paroxysms of excruciating pain, has brought on epileptic attacks frequently. Indeed there is scarcely a disease to which the stomach and intestines are liable, that have not produced epilepsy. But after this long catalogue of causes has been gone through causes which ~~have~~ are defined as those that act indirectly, effecting the brain sympathetically; yet scarcely one which we have named, ever does or can produce this disease unless there is predisposition previously existing. A disease may attack one individual in its most severe and violent form, producing the highest degree of inflamation and flow of blood to the head, and not the slightest symptom of epilepsy be discovered; but if one who is predisposed to epilepsy, has an attack of the same disease and although he may he have it in its mildest form, yet it will produce a most violent paroxysm of epilepsy. And in short

scarcely one of these affections will produce epilepsy, unless this peculiar predisposition, this morbid mobility of the brain exists.

There is yet remaining to be mentioned another variety of causes; those that act directly on the brain. As we have before observed it is hereditary, when this is the case there is always a mobility of the brain. A malformation of the bones cranium, which may be congenital, or produced in after life by accident, either by fracture of the cranium causing pressure on the brain, or by spiculæ of bone being driven in on it; ossification of the brain or its membranes, tumors, or foreign substances in the brain, &c. have caused the disease. call the exciting passions, disappointed ambition and love, fear and terror have frequently produced the disease. Particular odours have also excited it, but if we were to enumerate all the causes which give rise to this disease, it would extend this essay much beyond the limits, to which we wish to confine it. It is unnecessary

to say anything of the congestion of the veins of the brain, as no doubt now exists of it being an exciting cause.

But little difficulty will be experienced in distinguishing this disease from others, as but few resemble it so closely as to be confounded with it. Hysteria is the most likely to be mistaken for it, but if no other diagnostic symptom was present, the Globus hystericus, would be sufficient to guide us, but in addition to this there is not such a profuse discharge of saliva or foaming at the mouth, as in epilepsy, the countenance is not so livid in Hysteria &c &c.

The prognosis in epilepsy is by no means favourable, for although immediate death from the paroxysm seldom occurs, yet a permanent cure is rarely effected. When it arises from a local cause independent of the brain, such as worms, irritation of the alimentary canal &c, the prospect of a radical cure is more favourable. But when it originates in the brain, of from the

reditory predisposition, and when the mind has become evidently injured, no matter from what cause the disease originated, it has but rarely, if ever permanently been cured.

In no disease has so many remedies been used, or so empirically, as in this, the pathology being so obscure naturally give rise to innumerable modes of treatment, most of which originated without a shadow of reason, but founded on the ignorance of the true origin of the disease. And even now notwithstanding the rapid strides that the science of medicine has taken in improvement, we are but little superior to ancients in our treatment of the disease.

For although their charms and nostrums are now only remembered as an evidence of their utter ignorance of the true nature of this disease, yet if we are superior to them in managing this malady, or if we exceed them in our knowledge of its treatment, it consists in our being aware of our utter ignorance upon the subject and

our inability to cure the disease when it has become constitutional. Some writer has observed that we are only truly wise when we are aware we know nothing; if this be so, then indeed have we arrived at the acme of perfection in the treatment of this disease, for I believe there is scarcely a physician of the present day, that will not acknowledge his inability to cure true Epilepsy. By true epilepsy we mean that form of the which arises from hereditary predisposition; and although some authors have asserted they have cured epilepsy, we view them in the same light, as we do those who say they have cured Phthisis Pulmonalis, which if traced to its true source, we will find to have originated from a long protracted and neglected cough, in a patient where no hereditary predisposition existed, and producing a pulmonic disease materialy differing from real Phthisis Pulmonalis. It would be equally as unnecessary as it is impossible, in the

limits of this essay, to mention all the remedies that have been used in this disease, a very large majority of which have been used empirically, without the least regard to the pathological state of the system. The paroxysm it is said has been frequently prevented, when the aura preceded it, by applying a ligature around the limb, and intercepting to the head.

Dr Potter has prevented an attack by making an incision down upon the origin of the aura, he has also prevented an attack for some months, by puting a seaton in the back of the neck. When the disease is caused by irritation of the alimentary canal, either from worms or indigestable aliment, removeing the cause either by anthelmintics, emetics or cathartics according to the indication; If it arises from suppressed habitual discharges, restore them, or supply their place by seatons or issues. When it is produced by pressure on the brain, by depressed cranium or

spicula of bone, remove them by trepaning &c.
Of the innumerable remedies which have been used empirically, we shall not speak farther than merely to mention some of them. Valerian, the Misletoe, the animal oil of Dipple, the oil of Turpentine, the root of the Peony, Agaricus Muscarius, Artemesia Vulgarius or Mugwort, nearly all the Narcotics, also Phosphorus, the Oxide Zinc, the Sulphate of Zinc, Cuprum Ammoniacum, Tin the acetate of Lead, Nitrate of Silver, mercury, in short there is scarcely an article of the Materia Medica that has not been used at some time in this disease. But after this long list of remedies we arrive at this conclusion that except in a few cases we can do nothing but palliate the disease, by preventing the return of the paroxysm for a time. And this is to be accomplished by attending to general principles, when hypremia or afflux of blood to the head exists, blood letting, keeping the bowels soluble and the antiphlogistic regimen generally. And if

it is produced by anemia or atony of the system generally, tonics are indicated.
After this view of the subject it is unnecessary to enter into the description of properties of each particular article that we have enumerated, or the proper time for their administration, as all of them are either excitants and tonics or sedatives. Consequently no difficulty as to their proper use can exist, as the particular state of the system will indicate their application.
We will conclude by observing that if we have advanced nothing new in this treatise, we have not disappointed our expectations, and also have the satisfaction of having fulfilled a duty imposed upon us by the laws of the institution.

Upton H Lawrence

An

Inaugural Dissertation

On

The Modus Operandi of Medicines

Submitted

To the Provost Trustees and Faculty

Of

The University of Maryland

By

Alexander Tolson

Anno Domini 1836

Unaccustomed as I am to write and labouring as I do under innumerable and manifest disadvantages I must throw myself upon your known forbearance and Compassionate indulgence, while I attempt to discharge a duty devolving upon me in Consequence of my Medical Associations,— Sensible, that I am entirely inadequate to acquit myself in any small degree, in such a manner as to contribute to your satisfaction, or commensurate with my own aspirations. Indeed, it cannot be reasonably expected of me who is entirely devoid of practical experience and observation, of one who is a mere novice in the Healing Art, to advance any one argument entirely original. We may assert to almost any Medical Topic, and we will find Controversy after Controversy, Theory after Theory, differing essentially in their Physiological, Pathological and Therapeutical relations.

Thow the bare mentioning of whose Names, would not be otherwise, than one honour to their Profession Entertaining the most conflicting sentiments. How must he, who is about to launch in his Profession navigate in order to avoid Scilla and Charybdis? Reason points out but one source of security, and that is, to participate Equally of the circumvolutions of both. We can only examine for ourselves, those different opinions, carry out their various reasonings, and select as our judgement may dictate, that which is most expedient, and in conformity with daily observation.

The subject, which I have chosen to present respectfully to your Considerations, is the Modus Operandi of Medicines, one about which there has been much Therapeutical variance, and which is yet enveloped in considerable obscurity. It has been a Theme for Centuries, which has given rise to much ingenious speculation and scientific controversy.

The general operations of Medicines, is that of

exciting either the whole system or particular parts
of that system. This state of excitement may be accom-
=plished in three ways — first by Absorption, secondly
by Nervous Communication, and thirdly by Revulsion —
which may act in either way. The agent which
produces this Excitement is denominated an Excitant
or Stimulant. The effects of this Class of Remedies vary
materially, according as their action is Permanent or
Diffusible, some of them are highly diffusible in their
Character, as may be inferred from the invigorating
Effects which they produce, when in contact with the
Stomach, of giving a greater impetus to the Torrent of
the Circulation and of imparting a similar influence to
the different Organs of the System, while others again
are equally slow in their operation, their effects being
scarcely discernible, unless after long and repeated —
administration. Accordingly as these Excitants are so
diversified in their action, it must follow as a natu-
=ral consequence, that they must be productive of —

effects very dissimilar from each other. The immediate excitation caused by the one (which is very transient) is soon followed by a proportional degree of depression, while the other, more permanent in its duration, is productive of effects of a more lasting nature. Thus, we have seen the different actions, which these Medicines are capable of producing upon the living Economy. and this diversity of action aids us in explaining the degrees of Power of some of our most valuable medicinal Agents. This investigation then leads us to a division of those general Stimulants into Tonics and Astringents Narcotics and Antispasmodics, the former as we have seen are more permanent in their action, the latter more diffusible, or as some have denominated them, more Absolute or Relative in their Effects. There is another very striking difference among Stimulants, which is, that some exert a general effect, as regards the System, whilst others exert only a partial effect or have their action exclusively directed to particular

organs of the System. The effects produced by the operation of either is yet behind the Curtain of obscurity, which remains to be raised by the discerning minds of Therapeutick. The fact is certain, that we know, there are substances, which when received into the Stomach, not only exert a stimulating effect upon that Organ, but likewise extend their influence over the whole System, while there are others again, which seem to exert little or no action on that Organ or the System in general, but to expend their whole energy upon particular Organs— This fact is well known by the operations of Cathartics, Diuretics, Sudorifics, and many other examples might be adduced in support of the specific actions of Medicines. Those Medicines, which have their specific actions upon particular Organs, must either pass into the mass of the Circulating System, and thus act directly upon those Organs, or have their action impressed, first upon the Stomach, and from thence propagated to the rest of

the System, through the Medium of Sympathetic Comm
=unication. In both ways may those Agents act, in
producing their solutory effects. It is asserted by
some, that there are many Medicinal Substances, which
when taken, appear to undergo the Process of assimilation
with the food, and to pass into the Circulation (thus by
that unknown law, to seek out their particular Organ
upon which they exert their peculiar action, Mercury
is given as an example, but how is it, that, that sub
=stance, after undergoing this assimilating Process—
changed as it must be, in its Physical and Chemical
Composition, how can its action exerted upon any Organ
as Mercury still—It is well known, that when this
substance, is taken to a sufficient extent, so as to
produce the effect of Ptyalism, the composition of it
is the same, as before its administration, If this be
the case, it must be admitted, that it passes into
the Circulation, without undergoing any Process of
Assimilation or change whatever. There are some Medi

cinal Agents, which are capable of partially and others of totally evading the function of assimilation, and thereby enter the circulation, Some of the Alkaline salts, which are embraced under the head of Diuretics afford an ample illustration of this, which can be easily detected in the secretion by appropriate Reagents. The simplest and most general mode, in which Medicinal substances operate, is upon the Stomach, and there, they may produce their effects, either upon that Organ, or upon Organs which are situated remotely from it, this latter effect may be accomplished by Absorption or Nervous Communication. However mysterious and difficult it may be to account, for the propagation of the effects of Medicines, through the Medium of the Nerves the fact is established by incontestable Evidence. The property, which some of our most diffusible Stimuli have of arousing the Vital manifestations of the general System, so soon as they come in immediate contact with the Coats of the Stomach, is an Evidence

at once, that they must have some other channel of communication, besides that of absorption. The well known stimulus (wine) when received into the Stomach displays its effects in a few minutes after, it dissipates the cares of the pensive, repels every thing like lassitude, increases the activity of the circulation, gives tension to the Muscles themselves, and indeed almost effects a total revolution in the System, for the time being and the same remedy when taken in too large a quantity produces effects completely opposite to those described, with the same degree of celerity. From the great susceptibility, which the Stomach possesses, and receiving as it does, numerous impressions, and transmitting them to the general System, or particular parts of that System, it becomes an Organ of the first importance, When we take into consideration its intimate relation, the vast control, which it is capable of exercising over every function of the body— Endowed as it is with exquisite and diversified sensibilities, subjected to the

first impressions of our noxious ingesta, distended occasionally to an enormous size, by the voracious and unrestrained indulgence of Hunger, excited by the different passions, and in short, having its energy compleatly unstrung by the different acts of Solition our astonishment must then cease, in not only viewing it, as being the origen of the many Mal=adies, which invade our System, but likewise as being almost the Focus, from which the effects of Medicinal Agents are irradiated through the Medium of its Sympathies. However important this Organ— may be, and imbued with all those physical properties it is nevertheless, not in every case, the Medium of nervous Communication, A Medicinal Agent may produce a very decided impression, upon a distant part of the System, through the instrumentality of the Nerves, without any concurrence of the Stomach whatever. These are examples of the various relatio=ns, which Medicinal Agents bear to the living——

Economy, we are totally unable to explain why some of them, should have their actions extend=ed to the Syptims in general, or why others again should act upon particular Organs

An
Inaugural Dissertation
On
Acute Subacute & chronic Bronchitis
Presented to the Faculty
of the University
of
Maryland for the
Degree of
Doctor of Medicine
By
Charles Percival, Montgomery
of
South Carolina
A.D. 1836

healed by the nostrums & tractors & charms of both antient & modern times. Nor can we omit the astonishing fact related of a cure, effected by Sir Humphry Davy: of a paralytic, by simply placing a thermometer under the patient's tongue to ascertain the temperature, preliminary to the application of the remedy which had been prescribed. The man fancied that was done which was intended & his fancy restored him to health— acting in upon the morbid condition of the nerves, and giving rise to a new action of the whole System. Paroxysms of Intermittents also have been prevented, just as they were approaching, by causing the patient to sit in all points, while the Doctor ran at him, a tergo, with a red hot Iron poker.

It is not impossible perhaps that many cases of inveterate disease might be thus interrupted by addressing powerful excellent means: such as should alter at once, by the revulsive Shock, the whole catenation of actions which have been contracting more by habit than by any necessary & determined morbid affection.

The uncertainty of the medical art has given rise to much ill natured Ology; but we have a great deal to hope from the diffusion of knowledge upon these subjects:— a time is to be given to men's minds that may think discreetly, and as the idle prejudices of

older times nearer we may look for rapid strides towards improvement. There is a wide field for enquiry. The investigation of Truth has its certainties in all time. There is an instinctive impulse of the mind which will prompt men to enter upon this enquiring, & Elevate the Science of Medicine to the grade which it should occupy. We are naturally curious to know the causes & tendencies of phenomena: Even in the Child we behold a little philosopher seeking to explore hidden agencies & remote results. Tho' the hoary headed father have now & then chafed a bubble with the fabric of his youthful imitator, only to see it burst at the moment he was to grasp it, he may yet, again, have been rewarded with the happy consciousness of having contributed an Element to the mighty Column which shall stand an Eternal monument of human ingenuity, and of the Mind's expansive energies.

We smile at the exclamation of a celebrated physician who declared that he was weary of guessing; and resolved to abandon the profession. If we cannot attain to absolute certainty, we have yet to learn that we have even the means of alleviating the distresses of a dying man: we may be assured that, if our fellow being must die, we can smooth the way & ease them off. It is no insignifi-

many, and does take place in endless cases with or without pain-, sometimes with or without tumefaction or spasmodic exacerbation, or with febrile excitement in a greater or less degree, while in numerous and well defined cases, all symtomatic distinctions appear so blended and compound, as to render the prevailing type of the disease of most difficult and obscure detection: Hence is referable all partial ~~att~~ discrimination of disease acute, sub acute and chronic form; seeming to be comprised in something in nature of a unity of derangement. Thus bronchial inflamation; while subjected to a great variety of type as well as intention-, inflamatory and acute - local excitement - and partially inflamed as well as

chronic derangement of subordinate organs,
assuming their existing form, arising from
morbific excitement, and inflamation of debility.
The correctness of such principles could be adduced
and, illustrated, but as the fact is indisputable, in
regard to the passions, functions and secretions of
all the primary organs and their subordinates,
additional elaboration is deemed totally unnecessary.
Reference being had to the liver and all important
viscera in its multifarious offices and affections will
imperatively suggest the doctrines of analogy, as
most applicable regarding other organs, and from
such source to pathology and medical practice,
discover the safest and most unerring direction.
In treating on any ~~subject~~ disease to which
the human subject may be inclined from what=

=ever known or discoverable cause whether remo=
=te or proximate, its pathological development is op=
=osited at once by a correct location of such
constitutional derangement, Hence the Observat=
=ions of anatomical science, most importantly
auxilliary, must direct, and will not fail to
impart highly valuable light- on the matter propo=
=sed. That part of the human system denominated
Trachea by Analamists, is in simple parlance the
wind pipe, consisting in its composition of a
Cartilaginous and membranous canal, through
which passes the air to the Lungs. Its whole extent
from the Larynx to the glottis, from the upper
section to the insertion, being united by elastic
ligamentous fibres is lined with a membrane
the office of which as a subordinate organ

Composed of secretory ducts, and constituted by nerves and fibres, is of most obvious utility. This section is known as the mucous membrane of the Bronchia. It is competent for the purposes of observation, that this membrane extends itself into the lobes of the lungs; - from its secretory office supplies a necessary degree of moisture to the Trachea, bronchial vessels; and of course and of course is calculated in an important degree to promote and preserve the sanities of the whole pulmonary system and economy. Arbitrary distinctions having obtained as before remarked in regard to derangements affecting the branchial organs, much confusion and uncertainty consequently resulted Inflamations of a varied type in different

portions of the same membrane, manifesting a symtomatic alliance or relation, may have suggested in view of practical attention, this arrangement alluded to. But such being deservedly discarded, we proceed, inprimis, to remark on the general character of Branchitis.

In many instances the diseases of which we discourse, is complicated with hepatic inflamation, in some forms appears mattered by any discoverable indications of constitutional disorder, in many it will be found to exist unaccompanied by febrile symtoms, and in some cases of inflamation of the mucous membrane of the bronchia the membrane itself, becomes ulcerated and communicates a most dangerous sympathetic inflamation

& the liver and lungs. Hence convenience and accuracy would dictate the propriety of Treating on this disease, in the order or arrangement of acute, sub acute and chronic Bronchitis Which therefore in its multiform appearance and destructive constitutional derangement will deserve the nicest pathalogical inquiry and the most skilful administration in the effectuation of successful practice. Acute Bronchitis will be found to exist on the discovery of the following diagnosis or characteristic symptoms, a great sense of constriction or tightness in the breast, attended with weight and oppression, though often without pain in a degree of severity in that section, Respiration is performed with considerable difficulty and accompanied by a rattling or wheezing occasioned

as may be justly inferred, from a copious lodg-
ement of viscid mucous in the smaller bronchial
tubes— violent pain in the head is always
present and most generally and always most
intense in the forehead this severity of pain
acquires aggravation, in the act of coughing—
in a recumbent position, a great sensation of
uneasiness is announced;— the countenance most
always pallid; a copious secretion of mucous
of a viscid and tenacious consistency is found
in the bronchia as the mucous membrane becom-
=es more or less irritated. It may be remarked
in this place that appearances after death in
this disease will afford the highest service to
practice, in examination of its progress in
detail, and strictly observing the mechanical

derangement which rapidly takes place in the organs;- It will be discoverable that small- er branches of the bronchial tubes are often filled and distened with a sanguiferous or bloody serum, or a matter of purulent appe- arance:- the substance of the lungs exibit-incei- pient suppuration; and the pleura becoming highly inflamed, thus most seriously affecting the hepatic Viscera, and its important subordinate organs. Hence observations and facts obtained from ana- tomical dysections are of profoundest importance to the practice, and whether acute Bronchitis in all cases terminates by suffocation or otherwise many facts may be ascertained and collected, from which, skill and attention may be in great degree, enabled

good.—

℞ Muriatis. ammonia Ziij
Pulv: ext: glycyrrh: Zfs
Tart: antim: — gr 1
Aq: fontanæ Zviij — M —

Dose a dessert spoonful for a child 3 or 4 years old, every two or three hours —

℞ Spirit: mindereri Zij
Spirit: nit: dulc: Ziij
Vin: antim: zij
Syrup: limonis Zij — M.

Dose a table spoonful every two or three hours.

To aid the remedies above mentioned, blood letting may sometimes be required, but we should always be very cautious in using the lancet, in this disease, where there is no internal inflammation —

Though our active treatment is not necessary in the regular form of measles, it is so in cases where visceral inflammation is present. Here we must employ a vigorous antiphlogistic treatment. Although the use of the lancet is rarely required in mild cases, here it is our main reliance, and here we must use it promptly

both generally and locally. In addition to bleeding, we must have recourse to blisters, and emetics, of which last the antimonial emetics are the best. Antimony in nauseating doses, also will be found benificial, in reducing the pulse. The bowels should be kept open, by mild purgatives, and calomel followed by sulph. magnesia or oil will answer this purpose very well. If bronchitis or croup should supervene, emetics, and calomel are exceedingly benificial. The calomel should be carried so far only, as it is capable of modifying the secretions, without producing salivation.

In treating this variety of the disease, we must always use such remedies, as are necessary for the existing inflammation, paying no regard to the morbillious affection, but looking only to the character of the fever that is present.

As regards the treatment of the congestive modification of rubeola, where reaction comes on imperfectly, and in some instances does not take place at all; where the breathing is oppressed, the face pale, the pulse feeble and laboring, and the sensorial powers much depressed; we must

An

Inaugural Dissertation

On

Canine Madness

Submitted

To the Provost Trustees and Faculty

Of

The University of Maryland

And

Humbly Dedicated

To

Professor Nathaniel Potter

By

Francis Lambert D.C.

Anno Domini 1836

In treating of the subject which I have chosen, for this Dissertation, it is not my intention to enumerate all the Cases of Hydrophobia on record, nor to describe the various modes of treatment which have been recommended and resorted to by Authors. This with my limited means — would present insurmountable obstacles, and would, if it were practicable, occupy more space, than it would be proper for me to devote to the whole subject, Nor is it my intention to propose new Theories, Doctrines, or modes of treatment. This would perhaps afford an ample field for the display of ingenuity or speculative talent, but would be attended with little or no practical advantage. I may it is true have peculiar ideas on the Pathology of this Disease, but they are as yet too crude, to be interesting or instructive to any one. And besides, I have no experience from which to draw Evidences of the truth of my opinions, and am not disposed to follow the example of those who dive into the deep recesses, and fertile gardens of Antiquity to cull flowers to decorate their beautiful Theories or borrow foundations for their splendid Edifices without

condescending to give those from whom they had committed the theft even a glance of recognition, for in the language of a distinguished poet of antiquity,

"Most convicula sisum
Furtivis nudata coloribus"

But I shall content myself with merely stating what I conceive to be the best opinions of those already proposed, and the mode of treatment which holds out the best prospect of success, in doing this I shall advocate, those more recently promulgated, inasmuch my main object in accepting this subject, is to bring into view some facts which I believe are not generally known, and which may be brought as evidence in favour of the plan of treatment proposed and so triumphantly advocated in the Lectures of the learned and ingenious Professor of the Theory and Practice of Physic in the University of Maryland from which most of the facts and the history of the disease are principally drawn.

The term Hydrophobia, is derived from two Greek words signifying to fear water. I shall not stop here to discuss the propriety of its employment, as a name for the disease

occasioned by the bite of a rabid Animal and originating in the same Species. The disease being viewed as one of the most dreadful scourges of Mankind, no Country has been willing to own it, as its progeny, and authors of different nations have therefore laboured to prove, that it did not originate within their Countries, But this is certainly unnecessary, as the disease is certainly as demonstrable as any of the "ills which wait on frail humanity," and undoubtedly has as much claims, as any other, to have once been an inmate of Pandoras Box. It is perhaps but of late years, that it made its appearance in some Countries, and has not arrived as yet in others as— Egypt — Syria — Cape of Good-hope &c &c." Canine Madness was placed by Dr Cullen in his class Neuroses and order Spasmi, Drs Hossack, Thomas and most others I believe have followed this arrangement, I will not presume here to place my opinion in opposition to such men as the illustrious Cullen, but will content myself by stating, that according to the opinion of some distinguished Pathologists of the present days, Hydrophobia is an inflamatory disease, Others those supposed

it to be primarily a disease of the Lymphatic System
others again suppose it to be a Fever, "sui generis" —
Pathologists have endeavoured to establish the identity
of Hydrophobia and Tetanus. But if this identity did
really exist, it could not be made out, until the obscu-
-rity in which the pathology of both diseases is
involved was removed, and I think, that a view of
their Causes will be sufficient to shew, that they are
seperate and distinct diseases, bearing no more resemb-
-lance than Hydrophobia and Hysteria — Hydrophobia
and Melancholia — Apoplexy and Epilepsy, and many
other instances, which might be adduced as bearing
on this point. Canine madness may originate in Ani-
-mals of the Canine Species, as Dogs, Wolves, and Foxes —
and in none others. It may be communicated by the
Animal in which it has originated, to any other, and by
it may be propagated — ad infinitum — Man can communi-
-cate the disease with as great certainty as any other
Animal. The disease after it has commenced in the Dog
Fox or Wolf may be propagated to the greatest variety

of genera and species, without the poison undergoing any change whatever, it will possess the same properties and will produce the same effects. Experiments have proved that the flesh, saliva, or any other part of a rabid animal may be taken into the stomach with impunity. The poison may also be rubbed on the skin without producing any sensible effect. Hydrophobia cannot originate spontaneously; it like every other effect, must have a cause. It appears from circumstances which attend the occurrence of the disease, that, that cause is alternations of heat and cold. Canine Madness seldom or never occurs in temperate or regular climates, as Egypt, Syria Spanish America and the Cape of Good Hope, where it appears in this Country, it is generally observed to be in Spring or Fall, seldom in the hottest months of Summer or coldest part of Winter. The cause of Hydrophobia has been ascribed to a certain something in the throat of the Dog, by some supposed to be a worm, by others a gland, and by others a nerve, But this is only an evasion of the difficulty, for if the disease depend on this gland, nerve, or worm, what brings this cause into action

at the particular time at which the disease appears, and even if this should the difficulty it is obnoxious to a still greater objection, viz" that the supposed gland, nerve or worm has been removed, and the Dog has afterwards been affected with Hydrophobia. There have been many other causes assigned as giving rise to Canine Madness, but it would be unnecessary to notice them in this place. The latent period is very various being from twenty four hours, to three — four — five or six years, one case is recorded, in which the poison laid dormant for twenty years. But the general average period is about six weeks. Bites on parts of the body which are uncovered are much more dangerous, than those in which the tooth has to penetrate clothing before entering the flesh. When a Dog has bitten a human being and is suspected of being rabid, he ought to be confined, and the symtoms carefully watched. The Dog will exhibit some strong deviations from his usual habits — as a depraved appetite in eating his own faeces or drinking his own urine, running after every thing, that may happen to be in his way however common or trifling, he will still however seldom attack any one — he will as yet retain the same fondness for his Master

—he is however very irritable and treacherous, becoming angry on the slightest provocation and snaps at those around him, he appears unusually listless and melancholy— his apetite is sometimes voracious. In the more advanced stages of the disease, the animal becomes extremely anxious and impotient, he has an inordinate desire to gnaw every thing he meets with, he will make strenuous efforts to escape with incessant and distressful cries. If successful in bursting from his imprisonment, he will wander about seeking other animals to bite, as though conscious that he is robbed of all the pleasures of his existence and must soon bid adieu to life— he appears to be determined, that as all things are soured to him, he will place all who may come within his reach in the same melancholy situation. The disease then becomes so well marked, that it would be impossible to mistake it. The symptoms of Hydrophobia in the human being have been well described by authors— those most generally observed are pain in the bitten part, the pain then becomes wandering— chillness. Langour lassitude. head-ache low spirits, restlessness, want of apetite disturbed sleep all these symptoms increase until the occurrence of raving madness, and that symptom which has

given name to the disease, produced by the pain and difficulty of deglutition. The patient now attempts to injure any one who comes near him. The disease takes on the Symtoms of inflamation of the Stomach and intestines and exhibits all the marks of compleate destruction of the Nervous Energy. Then — takes place difficulty of micturition, priapism, pain in the urethra, and sensibiculus Cordis, and throat. The difficulty of swallowing becomes greater. The patient now complains of cold and if he should get to sleep, he will be suddenly awoked with horrid dreams his eyes are ferocious and penetrating, the appearance of his countenance anxious and melancholy, sometimes pale at other times florid, he is affected with great and continued thirst continually calling for water and throwing it off with violence when presented to him, the mere sight of it throwing him into a convulsion. There is a sensation similar to that of the Globus Hystericus. The breathing now becomes difficult, the flow of saliva is very troublesome and is difficultly discharged. the delirium is more constant the Muscles of the lower jaw become relaxed. The pulse is variously described, in some cases it is hard, frequent and

strong, in others overcome and oppressed, in others irregular & irregular &c &c. Hydrophobia is not always characterized by any great degree of weakness, instances have been known of persons running a great distance or making great muscular exertions, just previous to death. The disease has generally terminated in from two to five days from its commencement, the patient dying from the extinction of the nervous power or in a convulsive fit. The Prognosis has been looked on by Physicians of all ages as of the most gloomy character, indeed so horrible is the spectacle of a human being labouring under Hydrophobia so frightful their conduct and so inevitable the fatal termination, that there have been many persons smothered to death by the direction of their friends, and many others have fallen victims to this dreadful disease without an attempt to rescue them. But I believe I may express the hope that the day is not far distant, when Physicians will grapple with this disease as willingly and with as much confidence of success as with any other disease of a violent nature and imminent peril. The treatment of Hydrophobia may properly be divided into prophylactic and

curative. If is generally in the power of the Physician to resort to all the means which have been suggested as prophylactic, these may be divided into local & general. The local remedies are excision of the parts about the wound with the knife, the application of Caustic Potassa in solution, and of the Actual Cautery. If the wound be near or situated in the vicinity of small bones or large vessels the excision cannot be effectual, nor can the application of the actual Cautery. The best mode of local treatment is to lay open the wound as far as the tooth could possibly extend, and with a small pointed syringe inject a strong solution of Caustic Potassa, or if this be too painful for the patient we may substitute Ol. Terebinth. or Linct. Cantharides, but with less probability of success. Mercurial Ointment might be properly used by way of friction in order to assist in bringing on a Salivation. If the patient be plethoric, he should loose blood. The internal prophylactics which have been recommended are various but most of them have been laid aside. The preparations of Lead have been highly extolled and on authority which would justify their employment if we had none to which

we could resort with greater probability of success. In the facts which have been related by Professor Potts as having occurred in the practice of his father and in that of another physician of this State, it appears that mercury given to the extent of producing salivation may be resorted to as a prophylactic with more than probability and almost certainly with success, but strong as this reasoning is, we do not rest the point here, the learned professor above alluded to with his friend the late Dr Barrow have experimented on dogs and found the remedy triumphantly to sustain its character as a prophylactic in cases of this nature. I have been also informed by my preceptor and friend Dr W. B. Magruder of W. C that he had had two cases of this disease, which he treated successfully with mercury in conjunction with the lancet, and in several cases where persons had been bitten by rabid dogs he had used mercurial prophylactics so as to produce salivation, and prevented any symptoms of Hydrophobia, with these facts I am decidedly of opinion, the best means of averting the horrible

death produced by Hydrophobia, are those I have endeavoured to advocate, but the Physician must not hesitate nor fear that temporising measures will not do he must act as he sees, there can be no danger in carrying the remedy to its full extent, for its worst effects cannot be so dreadful as death under all the horrible tortures of Canine Madness.