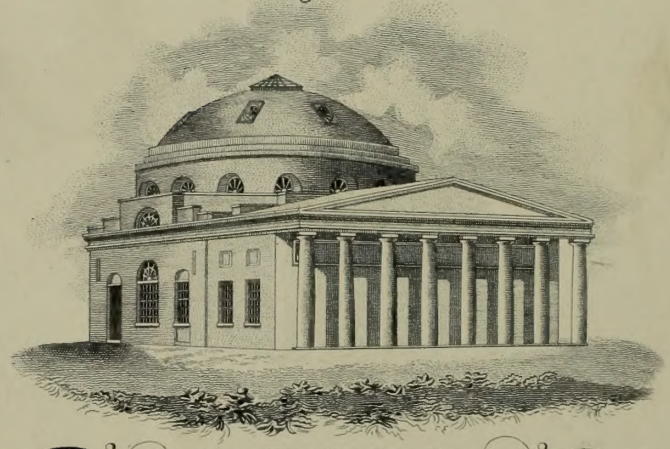

University of Maryland Theses

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.

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'Dedication to John Quincy Adams.

HSHSL 2011 for the UM Digital Archive. Sources consulted for corrections: Original Dissertation; University of Maryland Medical Faculty, Matriculation List, 1821-1851; Cordell, Eugene F. "University of Maryland, 1807-1907" (New York : The Lewis Publishing Company, 1907), Volume 2.

UNIVERSITY OF MARYLAND

THESES

1825

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Magruder, John A.	Gastritis	11p.
Connor, John W.	Hepatitis	14p.
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An,
Inaugural Essay,
on the
Rheumatism;
submitted to the examination,
of the,
Reverend Bishop Kemp. D.D. Provost,
&c. &c. &c.
The Regents
and
Professors,
of the
University
of Maryland;
for the degree, of,
Doctor of Medicine.
By
Ch. V. Swearingen
of Hagers Town Maryland
On 3d. of April 1825.

To Frederick Dorsey M.D.
Hagers Town Maryland,
who is so eminently distinguished,
In the exercise, of the profession,
in which, he is now engaged,
This Dissertation,
is, most respectfully
Inscribed,
By his,
much obliged,
Friend, and Pupil.

Ch. V. Swearingen

"

Although I am sensible, that it will not be difficult to detect, many imperfections in this essay; yet as liberality of sentiment, is an attendant on minds that are endowed with genius, and judgment, I hope to claim a share of their indulgence, and trust, that a proper allowance, will be made for my inexperience.

The Author

"

Thesis.

The Rheumatism is a disease peculiar to climates where there are sudden changes of the weather, as from heat to cold and from moisture to dryness - It is seldom found in countries uniformly hot - It occurs more frequent-ly in Autumn and Spring after very warm or cold seasons. It is a common disease among Sailors, Soldiers, and Labourers, who from their occupations are continually exposed to the vicissitudes - hard drinkers and persons of a plethoric habit of body with a volatile dis-position seldom escape it, and it sometimes happens that persons of a weak relaxed and delicate constitutions are affected with it. All such substances as act upon the body either directly or indirectly so as to occasion debility produce the disease. - Excessive evacuations whether produced from the skin, bowels, or bloodvessels, always induce a great degree of debility of the system, forming a predispo-sition, which in many instances, has laid the foundation for very obstinate and almost incu-rable Rheumatic affections of the joints &c or rather the bursae mucosae of the joints - These more frequently happen from the long contin-

-ued

continued use of Mercurial medicines in Syph-
ilis &c cases of which have come under the observation
of some respectable gentlemen - cold abstracting from
the system those agents, which keep up in it a natural
and healthy action, hence, the slothful dispositions
languid habits, and uncommonly slow pulses,
generally observed among the inhabitants of cold
climates as The pulse of a Greenlander beats
only from forty to forty five strokes in a minute,
whereas the pulse of an inhabitant of a more
southern latitude beats from seventy to eighty
from the sedative operation of cold, we can
readily account for the paleness, & those bumps
commonly observed upon the skins of persons
exposed thereto, from the cessation or diminution
of the action of the capillaries - this likewise
explains to us the sudden stoppage of haemorrha-
-gies from the same cause - The operation of
cold on the system is much greater when com-
-bined with moisture, as has been proved by
the unfortunate experience of hundreds of
persons living near the sea shore, and from
sailors and soldiers being so liable to this disease
From long exposure to the damp atmosphere,
wearing wet clothes, and suddenly going to
a draught of air, when the system is much

much heated, and in a state of perspiration, has frequently laid the foundation for this troublesome complaint. Among the innumerable causes which predispose the system, we find none more common than that arising from a want of accommodation of dress to the various changes of weather. The absurdity of changing our apparel only with the different seasons of the year, must be obvious to every one who reflects in the least upon the uncertain nature of our climate. The greater part of the diseases of spring and autumn I believe arise from this source. Heat in a moderate degree being absolutely necessary for the due maintainance of health acts as a general stimulant to the system in producing that degree of excitement which is favorable to the healthy and natural operations of all its functions. But when in excess and long applied, its effects on the system are just the reverse; inducing languor, lassitude and other symptoms of debility; and in this manner often acts as the remote cause of this disease. The sudden changes of the weather and shifting of the wind which so commonly happen in autumn, debilitate the system and thereby occasion the disease.

The unhapy effects produced on the body by these sudden changes, naturally suggest to us the a caution against taking draughts of cold water, when it is in any measure heated above the natural p^c temperature - Straining bruising, and exercise when carried on so as to induce fatigue, likewise prove a remote cause of this disease - This readily explains to us why the labouring class of people are so very liable to be affected with rheumatism - Excess in eating and drinking, also a too great indulgence in the venereal passion, are powerful agents in bringing on predisposing debility. The rheumatism seldom appears either in very young or elderly persons, it appears from the age of puberty to that of thirty five or forty years, the seat of the pain appears to be generally in the fascia of the muscles or in the membranous investments of the joints - the muscular fibres themselves are said to be sometimes affected - The translation of the Rheumatism to the intestines is a very common occurrence, not only the these but the Heart and Lungs are said not to be exempt from - from its ravages es

Nosologists have distinguished it by different appellations, according to the different parts of the body affected by it, as when it attacks the muscles of the chest, and creates symptoms similar to those of pleurisy Pleurodine Rheumatica, when it affects the bowels and appears somewhat like dysentery; it has been denominated Ecteralgia Rheumatica, when the hips become the seat of the disease, has been distinguished by the name of Sciatica — when the loins, Lumbago &c. &c But as all such distinctions, but as all such distinctions, only serve to confuse without affording any practical utility whatever, I shall pass them over in silence, and considering the disease as a unit, shall proceed to give such a general description of it, as shall serve as a correct guide towards a successful method of treatment —

The Rheumatism has been divided by writers of all ages into the acute and Chronic, but a more natural division would have been into the acute sub-acute and Chronic — I therefore proceed to treat of each in the order in which they are

and related to each other – As the two former however are said to differ only in degree of their intensity and duration shall treat them as one &c

& Acute Rheumatism &c

The paroxysm of an acute rheumatism is generally preceded by chills, and shivering which are soon succeeded by great heat, thirst, and dryness of skin, The patient complains of great anxiety and costiveness, the tongue appears white, and the urine which at the commencement was high colored and clear, towards the middle or latter end of the paroxysm deposits a laterilitious sediment The pulse is synocha or hard full and tense the vessels of the skin appear to be somewhat spasmodically affected, from excess of action hence the stoppage of perspiration, and dryness of the skin – The pain affects the hip joint, knees ankles, wrists, and muscles, the latter of which have it much increased upon the least motion or pressure – In point of general frequency the upper and lower extremities are affected both alike, but the head is less often affected than any other part of the body There is a redness and swelling round the part

part affected, which sometimes approaches to the nature of erysipelas and is very painful to the touch - In some few ~~diseases~~ instances, the vascular distension which gives rise to the swelling, has taken place to such a degree, as to put somewhat like an anasarca - The sometimes will be marked with a recurrence or exacerbation of febrile symptoms - The pains will become more general and the disease will prove more difficult to cure - The fever most commonly comes on before the pains, but the latter sometimes precede the former two or three days - The pains seldom go off before the fever has abated and now and then they go off together - The patient does not enjoy much rest at night, if the fever and pains are the least severe, especially if the warmth of the bed clothes renders them much worse In this stage of rheumatism the pains in general do not remain stationary, an affect one part more than another, which disposition is always increased with an increase of fever. They commonly pursue the course of the muscles and flying from one joint to another is sometimes attended with the effect of lessening the pain of the joint last affected - It is a re—

remarkable characteristic of the disease that it seldom terminates fatally - Suppuration does not in the general take place but instead of which, effusions are produced to the great annoyance of the joint - sweating sometimes occurs at the commencement of the paroxysm, but does not prove critical or afford any relief, it frequently continues for three or four weeks, and as the fever lapses, the pains subside and are less liable to change their situation - The alteration produced in the blood is similar to that which occurs in pleurisy es -

, es The Rheumatalgia es,

Or what is by authors termed the purely chronic rheumatism, is that affection of the joints and muscles, which consists of pains very obstinate, accompanied with stiffness and rigidity of the parts - In the general it is scarcely attended with any febrile symptoms, and but little or no external signs of inflammation es The disease lies deep affecting those joints, that are surrounded with large muscles, that are continually in motion as the hip joint &c. It is often a consequence of violent strains or luxations - The pains are more stationary in this stage than in the

the acute, being little disposed to change their situation, or to affect more than one or two joints at a time. Effusions are oftener produced in the chronic than the other stages of the disease which greatly impede the motion of the joint The pulse approaches to that of the hysterics or small weak and quick without tension The pains here are not increased by the heat of the bed clothes, nor are they so liable to a recurrence or translation as in the acute. Elderly persons and those of a phlegmatic temperament are the proper subjects of the chronic rheumatism. The part occupied by the disease are not so painful as in the acute, but rather a deficiency of sensibility occurs.

Diagnosis. In writing on any disease to give a just definition of it, such as may include all the characters of the disease and at the same time serve to distinguish it from others, by leaving out every thing it has in common with them, is perhaps one of the most difficult parts in writing on any disease. But so variable has disease become in their nature, and so liable are they to interchange symptoms, that to draw such a line of distinction

as

as would serve as an unerring guide, is a task ~~un~~surmountable ~~but~~ but by few if not altogether impracticable — The Rheumatism is more allied to gout than any other complaint so great is their similarity, that many have been lead into error respecting the two diseases, it is either symptomatic or idiopathic — the Ancients did not distinguish them, but named them both under the term Arthritis, they however differ in a few particulars — first as it respects their degress of force — The rheumatism is in general much more mild in its attacks, is of shorter duration, returns less frequently, sometimes not more than two or three times during the whole of a ~~persons~~ lifes and is much easier to subdue than the gout — it seldom depends upon a hereditary predisposition, and is generally brought on by external causes, but gout is the frequent offspring of a hereditary predisposition, and arises from internal causes not altogether obvious — the gout with few exceptions never appears till after middle age, and attacks the smaller joints and viscera, and very frequently the stomach — The rheumatism most commonly appears before that period and attacks the

the small joints and viscera but seldom
cold applied to the part affected in gout fre-
quently produces a metastasis of the disease to the
stomach which in some instances will
kill in a short time, a cold application
in Rheumatism will cause a translation of
it from a joint to a muscle, or another joint
The part affected by gout is more susceptible, than
that affected by rheumatism - the concomitants
of gout are likewise different from those of rheu-
matism, as when it attacks the stomach, vomiting
indigestion and flatulency attend which seldom
or never accompany the latter disease - when the
rheumatism as it sometimes does, affects the Dia-
crum and neighboring parts, symptoms, will
occur similar to those upon a paroxysm of nephritis, but
may be distinguished from it - by the absence of
vomiting, and the liability of the pain to in-
crease upon the least exertion, or movement
It is with difficulty that rheumatic affections
of the chest can be distinguished from a com-
mon pleurisy, on account of that close connex-
ion which exist between their symptoms, how-
ever from the patient having formerly suffered
and from the inflammatory diathesis being
of very long continuance, we might with

with propriety judge of the nature of the disease — Rheumatic affections of the bowels may be distinguished from enteritis, by the pain being less severe of long continuance, and from the non occurrence of vomiting — Bloody stools never occur in rheumatic affections of the bowels, neither is it a contagious disease which distinguish it from dysentery — Dysenteric patients are frequently invaded by rheumatism, especially in the joints of the knees arms and hands, these parts often begin to suffer, about the time the time the intestinal affection begins to abate — Scorbutic and venereal affections are sometimes blended with rheumatism, but they may be distinguished by attending to their concomitants, there is a depraved habit of body accompanying scurvy which has never been remarked in rheumatism, the breath also of scorbutic patients is very disagreeable to the smell, the gums, are spungy frequently nausea and vomiting take place, symptoms which never occur in Rheumatism — In syphilis ulcers appear upon the genitals, which is not the case in rheumatism, and the pains generally affect the middle part of the bones, which in rheumatism are confined, to their extremities, which circumstances will serve to distinguish

these

two diseases

Treatment of Rheumatism

The remedies that are found most useful in this disease are first bloodletting, cold, sudorifics, purges, and blisters - In the employment of these remedies we must be regulated entirely regulated by the violence of the symptoms and duration of the disease, for when it is recent and the pains not very great and no considerable degree of fever attending, mild and less powerful medicines will answer in subduing it, such as gentle purgatives and diaphoretics &c it is at this period of the disease, in which frictions are found to be such advantage; its good effects will always be more certain when premised by proper evacuants, When the fever is very high - pulse hard and tense, the pains almost insupportable, flying from one joint to another, and are likely to continue for any length of time, we must then have recourse to more powerful evacuants as bleeding cathartics &c the propriety of withholding stimulating aliment is obvious to every one - the diet there-

-food of such patients must be restricted, all animal food should be forbidden, likewise all such as are of a stimulating, noxious and hard of digestion, and panada barley broth, milk &c. should be substituted in their room, all fermented and spirituous liquors should be particularly avoided. The patient should take copiously mild diluting drinks acidulated as tamarind water apple &c. Bleeding is the remedy to be depended most on in this complaint - as it abstracts the stimulus of the blood, from the very seat of the disease, and quickly reduces the excessive and morbid excitement in the system much evil might be avoided by regulating its use according to the state of the system as indicated by the pulse. Continue the bleeding as long as there is the least degree of tension in the pulse or any considerable degree of morbid action in the system - it should be continued until every sign of inflammation is subdued, cupping should likewise be used, or a few leaches applied to the part most inflamed - When these

measures are resorted to in time, and judiciously persevered in, we generally find them attended with the effects of inducing a copious perspiration, that proves in some degree critical. The pains abate in their severity and become more limited affecting only one or more joints. The swelling and redness of the part that was more particularly the seat of the disease will disappear in a great measure. By excessive, or too much bleeding, the degree of debility produced in the system by it, is extreme difficult to overcome, and frequently lays the foundation of some disease more troublesome, and disagreeable in its nature. cold is the next remedy that claims our attention. it is the auxilliary to bleeding and when used with discretion, and in conjunction with that remedy, facilitates very much the cure of this disease, it may be with propriety considered as an evacuant, as it absorbs that redundancy of heat generated in the system, by the excess of arterial ac-

-tion which when suffered to remain,
tends greatly to aggravate the dis-
ease. It is to the immortal Sydenham
that we are indebted for this introduc-
tion of this valuable into practice.
He first used it in fevers of the high-
est inflammatory grade, as the small-
pox &c. and from the uniform success
attending it, later Physicians have
extended its use, to diseases
of milder grade with the same good
effects. The forms in which it is
generally used, are ice, cold bath, and
cold air. The degree of cold ought
to be greater increased, as the febrile
symptoms become greater. The effi-
cacy of the cold bath in chronic
rheumatism, has been long noticed
by physicians. We will next
proceed to make a few remarks
on sudorifics, they have been used
in most inflammatory complaints
with success, and are by some preferred to
the Lancet. This operation is more
harsh, and their effects more debili-
tating to the system than that reme-

remedy; and they frequently fail in affording relief, in consequence of which the disease becomes aggravated. It requires extreme caution in their administration, patients being more liable to relapses, from exposure to the air most ~~perish~~ after their operation, than from the operation of other remedies. Their effects are rendered more certain, and less debilitating to the system when preceded by phlebotomy. They are better adapted to the milder forms of this disease, and may with safety be resorted to, when compelled by the prejudices of our patients to forsake more efficacious remedies.

After the disease has continued for a length of time, the inflammatory symptoms abate and nature about to establish a crisis, sudorifics might then be exhibited with safety, but at no other period of the disease, when there is much tension in the pulse, and they indicated unless bleeding has been premised. Weak-

diluents, are found to answer every purpose of more strong and powerful Diaphoretics, and the less stimulant they are the better. A few drops of Antimonial wine, given at the time of going to bed will often induce perspiration, which should be promoted by the warmth of the bed clothes &c. The Wm. of Guaic. has been proved by the experience of many, to be a valuable medicine in both the acute and Chronic stages of rheumatism, it not only proves diaphoretic but removes costiveness. The Datura Stramonium is much extolled in the cure of this disease. Dovers powder is a remedy much used to promote perspiration, it is likewise given with the view of relieving the pains and of procuring sleep, which it frequently does - The warm bath is also a very effectual means of procuring sweat and proving relief to the pain. With regard to the exhibition of purges little need be said. They are indicated in all inflam-

malony diseases attend with costiveness, the removal of which tends very much to the reduction of the febrile symptoms and to aid the operation of other remedies - their effects are generally more permanent when preceded by venesection they are not to be entirely relied on in the treatment of rheumatism, as they appear to be only auxilliaries. In the choice of cathartics we must be regulated by the system, if no great degree of costiveness attends, the milder sort are to be used as glauber salts cream of Tartar &c but if much costiveness, the more powerful kind are to be used as colomel jalap gamboge rhubarb &c Blisters are found to be particularly efficacious in the chronic stage of Rheumatism. they are not only attended with the advantage arising from depletion, but likewise that of exciting external action by which means the pains of the joints are greatly lessened &c.

An Inaugural Dissertation on Gastritis

Submitted to the consideration of the

Rev.d James Kemp D. D. Provost

and of

The regents of the University of Maryland

for the

Degree of Doctor of Physick

By John A. Magruder

of Prince Georges County Maryland

1825

To Wm. Beaumes M. D.

This Essay is dedicated, as a
small tribute of respect
for his superior talents, &c
and for his uniform politeness
to his friend and

Pupil.

Preface

The laws of the University of Maryland, under whose protecting smiles the author of the succeeding pages, has gone through the prescribed course of study, having rendered it necessary that all who obtain the laurels of her donation, shall first write a dissertation on something connected with his profession, I enter in obedience to this mandate upon the subject with feelings peculiarly novel, and with that diffidence which a young man must always experience, about to be initiated into a profession, contemplating in its extensive area every science cultivated by civilized man. Those literary pursuits which tend to elevate the mental faculty, and to render the temporary abode of the mortal pilgrim more cheerful, look to Medicine as the radiating source from which emanates every beam that gladdens the weary march of life. Medicine is not an insulated

Science dependant upon an abstract study - it is intimately blended with the early impressions of fundimental education and rises to the most sublime and exalted views of philosophy. Like astronomy it surveys the boundless regions of space - pausing with admiration only at the footstool of the Almighty. But to the benevolent mind of the philanthropist, medicine claims its tributes of adoration, when it administers its consolations to the palsied powers of life, and restores to the sympathising lips the hand that was wont to cherish her; or, to the mother, the innocent child of her travail; or, to the husband the partner of his pillow: thus spreading its benefits through the relative ties of affection, to the more limited propinquities of neighbour and friend. What youthful mind could enter upon a subject so contemplative, with boldness; or could expect to throw light upon a literary study so famed for its antiquity. It cannot be

expected then, that I should give any-
thing new, nor shall I indeed attempt
it.

The Author

Essay on Gastritis.

Fortunately for mankind — the disease which I have chosen for the subject of my inaugural dissertation, is less common than any of those classed by Nosologists under the order Phlegmasiæ. It is not here my intention to enquire whether Nosology has been of any benefit to the Medical world, as an auxiliary to the memory it is certainly useful; but at the same time it is not adequate to convey all the benefits designed by its authors.

Gastritis, or inflammation of the stomach, the subject of my essay, is derived from the Greek word, γαστηρ, the stomach.

I shall now proceed to the consideration of its symptoms which like all other diseases are sometimes simple — sometimes complicated. There is first acute pain in the stomach ac-

(companied

companied with burning heat. It is not always confined exactly to the region of the stomach, but extends as far as the false ribs, and often shoots to the back. Sudden and great prostration of strength. The pain is generally much increased by receiving any thing into the stomach and always by even the slightest pressure. Extreme anxiety attended with violent and painful vomiting; frequent hiccup. The pulse is frequent, small, contracted, more or less hard, and sometimes intermitting. It has been said, that it is sometimes rather strong, but this perhaps is a rare occurrence before bloodletting. The thirst is urgent, and on receiving a mild fluid into the stomach the pain often seems for a few moments to abate. The fluid however is soon rejected, and the patient finds any relief obtained by drinking, deceitful and transitory. The

(bowels

bowels are costive, though not obstinately so, unless the inflammation has spread to them; but the constant vomiting often opposes an obstacle to moving them. In acute gastritis, the tongue is often white and in some cases a diarrhoea attends, but the inflammation does not appear to be mitigated by it. -

Of the diagnosis - This disease has sometimes been taken for enteritis. It may be distinguished from it, by the seat of the pain ascertained by pressure, by the peculiar sense of burning heat in the epigastric region; and by the more severe vomiting and hiccup. - It may be distinguished from inflammation of the epigastric muscles by the state of the pulse, The illustrious Sullen with his usual accuracy of discription, has given us two kinds of inflammation, which attack equally the skin, cellular substance, and viscera.

Gallade

—I allude to the phlegmonous and erysipelatous. There seems to exist good foundation for this distinction, but I am yet to learn its utility; for the same remidies apply to both species. Governed by this impression, it is deemed unnecessary and inexpedient to say anything further as respects these divisions.

The termination of the disease in question is either in, Resolution, Suppuration, Gangrene, and sometime by Haemorrhage, which is owing to the matter eroding the vessels. It is perhaps proper to say something seperately of these terminations.

Of resolution. It is that termination of inflammation, which is cured without the distruction of any of the parts which it occupies, and is to be expected, when after proper treatment, the pulse becomes more soft and full, and the other symptoms

(gradually

gradually disappear. It is the only favourable termination of the disease. If the symptoms are severe, and do not suffer remissions, the period of resolution is generally passed in twenty four hours. In the violent cases, and when considerable remissions take place, it may happen after the disease has lasted for many days -

Of Suppuration - A tendancy to suppuration, which is a rare termination of gastritis, is known by the continuation of the symptoms, without any considerable remission, and at the same time with no great degree of violence for one or two weeks longer. When an abscess is formed there is a remission of the pain, generally preceded by rigors. There is also weight about the precordia attended with much anxiety. This termination is usually fatal, unless the abscess

(opens

opens into the stomach, in which case the matter may be discharged by vomiting and stool, and the ulcer sometimes heals —

Of gangrene - When the disease ends in gangrene, it is known by a cessation of pain, the pulse at the same time becoming more frequent and feeble; the anxiety and debility increasing with cold, clammy, and partial sweats. -

Causes - The causes of gastritis, may be divided into predisposing, external, and exciting. The predisposing cause acts by throwing the viscus into a state susceptible of disease, anything that tends to weaken the tone of the stomach may act as a predisposing cause. The external causes are blows in the region of the stomach contusion, incised or punctured wound, ball, passing through the stomach. The exciting cause, or that

(which

which brings the disease immediately into action, are poisons taken into the stomach, acrid substances, the sudden application of cold to the body in general, to the stomach or the extremities, as in drinking cold liquors when the body is preternaturally warm; this more frequently occasions spasm, which however may terminate in inflammation. Repulsion of eruptions suddenly may act as an exciting cause, the translation of gout and other diseases; indigestible food, and violent passions of the mind may also excite this disease. When Gastritis arises from cold there is as much pain as when it proceeds from other causes. It produces sometimes a thickning of the coats of the stomach; but this more generally is a consequence of over repletion, or long continued use of ardent spirits. —

Treatment — was a person, unaccustomed to behold the ravages of inflammation,

(to approach

to approach the bedside of a patient labouring under gastritis, and apply his fingers to the radial artery, he would pronounced him to be in a fearful state of debility; but let the practitioner beware of drawing so hasty a conclusion. Inflammation produced by any cause, is still inflammation, differing only in degree, requiring for its discussion remedies differing only in the vigor of their application. The first thing to be attended to is early venesection, and the pulse will always rise from the operation, and when it has risen, the practitioner must abstract more blood for its reduction. The blood perhaps, at the first or second bleeding, will remain unchanged in its appearance; but after the full developement of the heart's action, it will become sizy. I know of no better rule for the repetition of the lancet, than the continuance of the pain, and vomiting, for so long as these symptoms

(exist

exist — so long is inflammation pre-
sent, which will always require a
reiteration of the remedy. The lancet
is the more valuable, because purgatives
are inadmissable; it is true that Cal-
omel may sometimes be retained. The
European practitioners are in the habit
of using a combination of Calomel and
opium; but this practice is exceeding-
ly hazardous. Opium should not be
employed in any form, except in that
of embrocation; it then acts, by lessening
the sensibility. In the obstinate Constipa-
tion attendant upon gastritis, enema's
are valuable. An unpardonable error
in the treatment of inflammatory diseases
is the early application of a blister; they
should never be employed, before the
free use of the lancet, and until there is
evidence of declining action; for if they
act as stimuli they are surely unadapted
to that excited stage of inflammation
(when

when the high action of the heart threa-
tens the patient with an extinction
of animal life. The warm bath has
been recommended, but it should never
be employed to the exclusion of the
lancet, I believe it to be better suited
to the chronic state. When the symptoms
continue without abatement, there is
an extent of the inflammation involv-
ing the peritoneum and bowels; the pulse
however is not so frequent, in gastritis pro-
per, as in peritonitis, except in the last
stage. The patient to aid the curative
indications, may drink freely of warm
drinks (cold ones producing a contrac-
tion of the stomach) and if the stomach
will retain it, olive oil; this remedy is
more advisable in enteritis. What
would be the effect of the tartar ointment
as an auxiliary? The lancet then toge-
ther with enema, constitute the chief
curative agents. The rapidity of the disease

prevents the institution of a salivation; which by diverting diseased action might probably be advantageous. In cases not very inflammatory, mercurial frictions are highly beneficial.

An
Inaugural Dissertation
On
Hepatitis
Submitted to the Examination
Of
The Right Revd. Bishop Kemp D.D. Provost
And
The Regents and Professors
Of The
University of Maryland
For the Degree
Of
Doctor of Medicine
By
John W. Connor
Of
South Carolina

1825

To

The Revd. Samuel H. Jennings M.D.

As a Testimonial of Respect

This Inaugural Thesis

Is Most Respectfully Inscribed

By

The Author

Hepatitis

This disease is generally divided into two kinds acute and chronic, the former partaking more of the real and essential character of inflamation, the latter exhibiting symptoms of lessvalence as to their inflamatory tendency; but an enlargement and hardness of the liver with a less degree of pain. This disease appears to be influenced with respect to the frequency of its occurrence in a great measure by the temperature of different climates, warm and tropical regions are those in which it most generally and extensively prevails They appear to be peculiarly adapted to

the production of hepatic and billiaus diseases;
as on the other hand cold climates are to the
production of typhus and pulmonary com-
plaints; in fact the liver is said to be more
frequently affected with inflamation in warm
climates than any other part of the body, be-
cause of an increased secretion of bile supposed
to take place in consequence of the debility
produced by heat, by which the blood is
thrown on the internal parts when exposed
to change of temperature; or because the
bile becomes acrid, and thereby excites irri-
tation. This disease may be produced by
a great variety of causes, such as sudden chan-
ges of temperature, external injuries from
contusions. It is also occasionally brought on
by violent exercise; by intense summer heats;
by long continued intermitent and remittent
fevers; by surfeits, high living and an intem-

perate use of winous and spirituous liquors; by various solid concretions, or any thing that may obstruct the free passage of the blood through this organ. Derangement of the digestive organs; suppressed secretions; inflamations compression, violent passions and commotions of the mind, as anger, fear, love, grief, hypochondriasis, hysteria, melancholia. All these and the like occasionally give rise to obstructions and diseases of the liver. This disease is also frequently produced by hard study, by sedentary occupations and by various uneasy and unnatural positions of the body; by which the functions of the liver are impaired in the freedom of their operations. I believe this affection often follows as a consequence of an immoderate and excessive use of certain poisons and narcotics, especially tobacco and opium and when this is the case I conceive that

the affection of the liver is generally
& always secondary, the stomach being
the part on which their deleterious
effects are first exerted, & the liver
through the medium of its contiguity
or attachments becomes diseased by sym-
pathy. It is a well established & gen-
erally admited fact, that whenever the
functions of the stomach by any agency are
much disordered, the liver becomes implica-
ted in the disease & vice versa. Intermi-
tent & remitent fevers in all probabil-
ity more frequently produce diseases of the
liver than any other single cause, or perhaps
than all other causes in combination.
This very likely is owing to improper treat-
ment in attempting the cure of these fevers,
perhaps to the use of ill timed remedies in

the commencement. In the cold stage of these diseases when they attack strong and plethoric habits, there is such a determination of the humours from the external to the internal parts of the body, and the liver acting in obedience to the same laws with other organs, consequently receives its full share of the distention, or perhaps from the number and capacity of its vessels more than its due proportion. Therefore it is very obvious that unless sufficient depletory measures have been used to unload it of its oppressive burden, its tender and delicate structure unable to resist such violent and repeated shocks must be subject to injury, and thus give rise to inflamation

The acute species of hepatitis commences with a sense of chillness accompanied with pain in the right hypochondrium - sometimes very acute, at other times dull, extending up to the clavicle and shoulder most usually of the right side, which is much increased by pressing upon the part. It is accompanied with a cough, difficulty of breathing, and difficulty of lying on the side affected, together with nausea, sickness of the stomach and vomiting of billious matter. The intestines are generally inactive and the stools show a deficiency of billiary secretion. The urine is high colored and small in quantity. There is loss of appetite great thirst and costiveness, with a strong hard and frequent pulse; the skin is

hot and dry at the same time, and the tongue covered with a white and sometimes a yellowish pus, and when the disease has continued for many days, the skin and eyes sometimes become tinged of a yellow colour, particularly when the disease is produced by calculi obstructing the billiary ducts. Writers have made a distinction between the symptoms that occur when the inflamation occupies the convex surface of the liver, and those that are present when the disease affects the concave. As a large portion of the concave surface of the liver lies contiguous to the stomach, it must of course hinder the dilitation of the receptacle of our nourishment, whenever it is very much enlarged or swelled by inflamation

as on the other hand the liver itself will be compressed by the stomach, when distended with food, so as to occasion an increase of all the symptoms. The same holds true also of the diaphragm which lies contiguous to the convex part of the liver. Hence follows a loss of appetite, sickness of the stomach, and vomiting, whenever the inflamation lies in the hollow part of the liver next the stomach, but if the inflamation be in the convex surface of the liver, then there will be greater pain and difficulty of breathing accompanied with cough. The peritonæum likewise are sometimes thrust out into a swelling, become painful and are by the inflamatory tergescence of the liver urged into a protuberance comformable to that of the liver itself.

But all these symptoms and appearances or present only when the whole lobe of the liver or at least when the greatest part of it is possessed by the inflamation; for a small or slight phlegmon of this large gland will not be attended by so many symptoms, because they principally arise from the actions of circumjacent parts, which are impeded by the swelled liver. For numerous observations prove that the liver in its own substance is not susceptible of any pain that is very acute; because abscesses have been found in the livers of persons after death, when they have not before complained of any pain about the affected part during the whole course of their malady, in which they have felt only a sense of heaviness, or an oppressing weight.

It is asserted by some writers that acute hepatitis is always an affection of the external membrane of the liver, while the chronick kind has its seat in the parenchymatic substance.

The chronick species is usually accompanied with a sallow complexion, loss of appetite and flesh, costiveness, indigestion, flatulency, pains in the stomach, a yellow tinge of the skin and eyes, clay coloured stools, high coloured urine depositing a red sediment, an obtuse pain in the region of the liver extending to the shoulder, together with a sense of weight, unusual fullness and some enlargement and hardness of the liver, and often with a slight difficulty of breathing. The pulse is generally small quick and frequent.

These are the most common pathognomonic symptoms, but occasionally it is attended by a great many others, sometimes by a very troublesome and distressing diarhea, and at other times by diarhea and costiveness alternately for a long time Frequently there is pain in the back part of the head and neck, an obtuse pain or soreness in the middle of the arms and legs as if they had been injured by some external violence a sensation of numbness in the joints of the hips and knees, twitching of the tendons and fluttering sensations in various parts of the body This disease is likewise accompanied with great drowsiness the patient almost suddenly falls into a sound sleep. The appetite in this disease is frequently but little interupted, sometimes it is very much increased, so that the patient finds it difficult to satiate his hunger, and the food

taken in adds nothing to his stock of strength and vigour. The right side has generally been described to be the part in which the pain is seated in hepatitis, and this as a general rule holds good but it is subject to many exceptions, as for instance when the left lobe is affected the pain will be felt mostly in the left side, and when the middle lobe the pain will be seated in the posterior part of the chest and back sometimes it is confined almost exclusively to the left side.

Hepatitis may end in resolution, suppuration schirrus and sometimes though rarely in gangrene It is sometimes carried off by haemorrhage from the nose or hemorrhoidal vessels, by sweating, by a diarhea and by an evacuation of urine depositing a copious sediment. It has sometimes ceased on the appearance of erisipelas and cutaneous eruptions

on the external surface. A diminution of pain, weight in the organ, increase of the evening paroxysm of fever, flushings of the countenance, propensity to night sweats and other hectic symptoms, indicate that suppuration has taken place. Continual hiccough, cold extremities and a sinking pulse indicate the presence of gangrene.

When this disease is accompanied by much inflammation and fever, bloodletting should be used and active cathartics administered such as calomel Jalap and neutral salts; after these warm fomentations to the part; the warm bath may be useful in very severe cases, also the application of leeches and cupping. Should the symptoms not abate by these means a large blister may be applied over the region of the liver. In acute hepatitis the whole of the antiphlogistic plan must be employed. Should all these means prove ineffectual mercurial friction

must be used over the part and mercury exhibited internally until salivation is induced.
In chronic hepatitis salivation is the principal remedy. Nitric acid may be given with great benefit in some cases; it is said to be especially applicable in scorbutic and very debilitated patients, on account of its antiscorbutic and tonic powers; it may be given to the extent of one or two drachms daily. This medicine like calomel, must be given until the mouth becomes affected, the salivary glands enlarged, and their secretion increased. As this is a chronic disease we must make use of the chronic treatment if I might be allowed the expression
Tonics, chalibeat waters and warm clothing continued for a long time according to their effects would doubtless prove very beneficial.

John O'Connor

A

Dissertation

on

Dysentery

Being an Inaugural Thesis
Prepared in conformity to the
Charter of the
University of Maryland
By
Henry Kuhn Jr.
of Frederick County
Maryland

1825

To

John B Davidge A.M. M.D

Professor of Anatomy in the University of

Maryland.

Sir,

As a feeble testimony of respect for your talents as a public teacher in an university which is justly esteemed an honour and ornament to my native State, of veneration for your exalted character as a private citizen and of gratitude for the attention you have been pleased to bestow upon me, this my first literary essay is most respectfully dedicated,

by your very humble and much obliged servant.

The Author.

On the Dysentery

The disease which I have selected as the subject of my dissertation on the present occasion, is placed, according to Dr Cullens nosological arrangement of diseases, in the class Pyrexia, and order profluvia, and is defined by that distinguished physician, "a contagious fever, in which the patient has frequent mucous or bloody stools, accompanied by much gripsing, and followed by a tenesmus; the alvine faces being for the most part retained." By the ancients, and particularly by Hippocrates, the term dysenteria or dysentery was used to signify, not only all the ulcerations, but all hemorrhages of the intestines, as well as every kind of flux, with or without. Conscious of the inconvenience attending this indefinite application of the term, some of the subsequent Greek writers restricted its meaning to an ulceration of the intestines, attended with gripes and tenesmus, and with mucous and bloody stools. This constitutes the Tormina of Celsus. Others applied the

term dysenteria to an ulceration of the bowels, and endeavoured to account for all the symptoms according to the particular part affected, and the circumstances of the case. But since the days of the illustrious Sydenham, the idea of an ulcer being necessary concomitant of the disease in question, is pretty generally abandoned, and the term dysenteria, or dysentery applied to the train of symptoms I am about to detail, and the outlines of which are so concisely given in Dr Cullens definition. With the exception of the word contagious, the definition of Dr Cullen appears as correct as it is concise; and according to the opinion advanced by Dr James Johnson in his Treatise on derangement of the liver &c. dysentery is almost as well defined in those few lines as it could be in a quarto volume. But the peculiarity of my situation, and the relation in which I stand to those for whose immediate inspection this, my first essay is prepared, seems to require a more minute detail of symptoms as they successively present themselves in the disease under consideration; a disease which has given rise to as much discrepancy of opinion amongst medical men perhaps as any other in the whole range of nosology.—

The dysentery, like other diseases of the class pyrexiæ, is generally preceded by some degree of languor, lassitude, nausea, anorexia &c; and is commonly ushered in by a chill or rigour, which is soon succeeded by a fever, as is indicated by increased force and frequency of the pulse, parched tongue, thirst, hot and dry skin, and not unfrequently some degree of pain in the head. To these symptoms, flatulence and griping pains in the ~~contents~~ intestines, constipation and a frequent desire to discharge the contents of the intestines soon succeed. By indulging the inclination to go to stool nothing is voided but a little mucous more or less tinged with blood, though the effort is attended with considerable straining and tenesmus. In many cases however, a diarrhœa is the first symptom of the disease, to which mucous, or mucous and bloody stools with tenesmus and fever succeed in a few days. When the disease is thus established, the inclination to go to stool becomes more urgent, the griping more excruciating, and the tenesmus more severe, insomuch that the patient has

but little respite. The matter voided varies considerably in different subjects, and in the same subject, at different stages of the disease. In some it will resemble mucous unmixed with blood, constituting the morbus mucosus of Dr Roederer, and the dysenteria alba of others. But more generally the mucous will be tinged or streaked with blood, less in the early stage, and more as the disease approaches its height. Sir John Pringle informs us that frequently a watery fluid is mixed with the blood and mucous; and sometimes a matter resembling blood alone constitutes nearly the whole of the substance discharged. In some severe cases, where the inflammatory action does not receive a timely check, ulceration and abrasion of the villous coat of the large intestines take place, and then, in addition to blood and mucous, pus and membranous films are voided. Lumps apparently sebaceous have also been observed in the matter voided by dysenteric patients, to which the term Corpora pinguia has been applied. These lumps have been considered as really sebaceous;

but Sir John Pringle and Dr Huck examined one at their leisure, and found that the subject of their research was nothing but a lumps of Cheese, though the patient afterwards informed them that he had not eaten any since the commencement of his disease, which had been of a fortnights standing. Whether this lumps of cheese had been formed by a collection of smaller particles which had passed undigested from the stomach to the colon before the patient was taken ill, or whether it had been since formed of milk which the patient had taken during the disease, those illustrious physicians could not determine; but they felt convinced that in whatever manner it had been formed, it was of the same nature with all the corpora pinguia that they had observed in the disease.—

After the tenesmus takes place faecal matter is rarely discharged except by the aid of medicine. When faeces do appear, unsolicited by art, they are usually found in coarse and hardened balls termed scybala. When those scybala are discharged, or when copious dejections are produced by

the aid of medicine, a considerable alleviation of the symptoms, and particularly of the griping and tenesmus takes place. In severe and protracted cases a prolapsus ani sometimes occurs; and a strangury, from inflammation of the neck of the bladder, has been mentioned as a symptom which sometimes accompanies the ~~disease~~ dysentery.—

The fever which accompanies dysentery is generally of the remittent cast, more rarely of the intermittent; and when great numbers of sick are crowded together, as in camps, jails, hospitals, or ships, the fever assumes the continued or typhus character. The fever frequently runs high requiring the prompt and energetic use of the most powerful antiphlogistic measures, and it generally continues with more or less violence throughout the whole course of the disease. In some cases however, the fever apparently ceases entirely, while some degree of griping & tenesmus, with mucous and bloody discharges continue, constituting the chronic stage of the disease; and sometimes a diarrhoea, and even a lientery succeed the dysenteric

symptoms. The chronic stage of the disease, is peculiarly distressing to both patient and physician. Independant of the pain and inconvenience attending the frequent calls to stool, the patient is liable to a relapse upon exposure to atmospherical vicissitudes or irregularity of diet or drink; and the physician finds this form of the disease much more unmanageable than the acute. Though this chronic stage may be kept up by an organic affection of the liver, by which the return of the blood through the mesenteric vessels is obstructed, I strongly suspect it more frequently results from leaving the disease in its early stage, too much to the efforts of nature, or when weak and inefficient measures are resorted to for the cure. If hepatic obstructions was generally the immediate cause, that complaint would be manifested by more characteristic symptoms. The blood-vessels of the intestines of a dysenteric patient, like the vessels of any other inflamed part, are doubtless distended and debilitated, and when measures sufficiently ener-

getic to relieve them of the oppression they suffer from a surcharge of blood are not resorted to, if gangrene does not supervene, they become habituated, as it were, to their state of distension and morbid secretion; and the longer they are suffered to continue in this state, the greater will be the difficulty to restore their lost tone and healthy functions. — In connection with the above symptoms, it may be observed from the very commencement of the disease, that the functions of the skin and liver are very materially deranged. The perspiration is either partial or suppressed; and I think it may be set down as a general rule that the bile is deficient in quantity or vitiated in quality. Sir John Pringle says, "I have never known dysentery epidemic, unless in summer or in autumn when the bile is most liable to be vitiated; nor have I seen any number ill of it, without hearing several complain of sickness at the stomach and vomiting of gall." — Though the bile may, in some few cases, be increased in quantity, I do not consider the "vomiting of gall" as

demonstrative evidence of that circumstance, particularly in a dysenteric patient. The passage of the bile through the intestines is frequently, indeed in the generality of cases, obstructed for several days in succession; hence a portion of what is formed and poured into the duodenum, may readily find its way into the stomach which is already in an irritable state, and be thrown up by vomiting. The contraction of the abdominal muscles during the act of vomiting may also force an increased quantity from the duodenum through the pylorus; and hence, although the quantity is less than in health, the circumstance of its being thrown up from the stomach might lead to the supposition that the secretion was increased. But this is anticipating what more properly belongs to another part of this dissertation.

The dysentery is sometimes complicated with other affections, particularly with organic affections of the liver and their consequences. Dr Staley attended a Mr Troxell in March 1814, who in addition to an e-

largement of the liver, hard dysentery, anasarca and ascites; but as I purpose to treat of dysentery alone, I shall not take its complications into consideration.— There are other symptoms, not pathognomonic of dysentery which generally occur towards its fatal termination, but these will be mentioned in the few remarks which I shall offer relative to the

Prognosis.—

In speaking of the prognosis, it may be remarked that, all the circumstances being alike, the dysentery is much more fatal in jails, ships, camps &c when great numbers of sick are crowded together, than when the disease prevails epidemically over an extensive tract of country, and when no more than the members of a single family are confined to the same house.— This circumstance may be accounted for without supposing the disease to be ~~contagious~~ propagated by a specific contagion, as I will endeavour to demonstrate hereafter.——

It may be considered a sign of a bad case when the febrile symptoms are not sensibly mitigated by the first copious bleeding and the operation of an emetic; when the stomach continues irritable, attended with frequent retchings; when the pulse sinks or intermits; when the countenance alters much, and when hiccup is present, and when the patient is restless without complaining of much pain. Notwithstanding several of these unfavourable symptoms present themselves in the same individual, the patient may, by proper attention recover. But if, in addition to great prostration of strength, with a feeble, irregular or intermitting pulse, and cessation of pain hiccup occurs, a gangrene may be suspected; and if, in the advanced stage of the disease, aphtha, petechiæ, or copper coloured blotches on the surface present themselves, attended with anxiety and restlessness without pain, with grinding of the teeth, hippocratic countenance, or copious liquid and involuntary stools, death soon closes the scene.—

A favourable termination may be anticipated when the fever abates under the curative plan, without being followed with any of the above mentioned unfavourable symptoms, and when the stomach is not very irritable, notwithstanding the griping and tenesmus be severe, and the bloody discharges considerable. When copious fecal dejections are produced, or when ptyalism in the early stage of the disease, takes place, the patient may be considered out of danger. —

Unlike the measles, smallpox &c, the dysentery has no definite period of duration; nor am I aware that critical days have any controul over this truly painful, offensive, and distressing malady. In different subjects, and under different collateral circumstances, the disease varies greatly as to its duration. Where the inflammatory symptoms run high, it may terminate fatally in five or six days, or even in a shorter period; and when prompt and energetic measures are resorted to, it may be cured in a similar length of time. But it generally contin

ues a much longer periods: as a medium I would say from twelve to twenty days. When some degree of griping and tenesmus continues after the symptoms of general excitement have been subdued, the disease sometimes continues for months, or even, in some cases for years together.—

Appearances on Dissection.

Upon opening the bowels of those who die of dysentery, the marks of intestinal inflammation and its consequences are sufficiently conspicuous, particularly in the colon and rectum. In the invaluable work on Typhus fever by Dr. John Armstrong, is the following remarks: "The inflammation which is so liable to accompany dysentery is either of the subacute or the acute kind as in Typhus, and agreeably to my researches it is seated, for the most part, chiefly in the villous coat of the intestines, and in the liver." Inflammation of the liver however does not appear to be a necessary concomitant of dysentery, as we learn from the acute observations of Sir John Pringle, though the liver or spleen is, not unfrequently found in

largest.— Though the villous coat of the intestines, appear to suffer most extensively from inflammation and its consequences, and may probably be the principal seat of inflammation in the milder cases of dysentery, yet in those violent and obstinate cases which consign the patients to the hands of the investigators of morbid anatomy, the other coats suffer from being exempt, as the following extract from the details of one of Sir John Pringles cases will show. "The rectum was mostly pale and from thence the gangrene seemed to have spread itself to the colon, which was mortified, and chiefly at its lower end. The villous coat was partly consumed, and what remained was blackish, tender, and easily to be seperated. The vascular coat had the appearance of a preperation well injected with red wax. The ligaments which contract the colon and form the cells, were half corrupted and adhered loosely to the outer coat. Part of the cecum was also mortified; the rest, as well as the smaller intestines, were of a firmer texture, but of an inflamed colour; and both

thin and the stomach was full of air!"—
The bladder, peritoneum, liver, and spleen are all liable to suffer from an extension of the inflammation. The gall bladder has been found enlarged and filled with vitiated bile; and the texture of the kidneys is sometimes altered and themselves enlarged. Ulceration and abrasion of the villous coat of the intestines are also to be met with in some cases; but when the disease proves fatal, gangrene of the rectum and colon will be found on dissection in the majority of cases.
The blood discharged does not appear to proceed from ruptured blood vessels, but according to Sir John Pringle, it appears to have oozed through a number of fine pores into the cavity of intestines. Dr James Johnson seems to think "if the plethora be great, blood itself will be poured from the mouths of the distended mesenteric vessels!"— Here the question seems to arise— have not those deservedly illustrious physicians, as well as their predecessors and contemporaries mistaken the real character of the matter voided

by a dysenteric patient? That portion of the ejections which resembles blood, has been spoken of as though it was really such, and the opinion handed down from one author to another without that strict examination which the true interest of medical science requires. That this red matter does not consist of blood, appears extremely probable; and whether my opinion on this subject be well founded or otherwise, I beg leave to state the data of which it is predicated. In some cases of dysentery nothing is voided but an apparently mucous substance, evidently the result of a secretory process; and as it is by no means certain that the apparently bloody matter proceeds from a distinct set of vessels, there is some reason to believe that it is the result of a similar process. The blood (as it is termed) and mucous are so intimately blended as to preclude the idea of their having been seperately formed and subsequently mixed in the cavity of the intestines, particularly when we reflect that the frequent calls to stool cause their expulsion almost as soon

as they escape from the vessels whence they issue. If this red matter consisted of blood, it would seem to follow that it must possess the properties of that fluid; but I think it extremely doubtful whether this supposed blood either coagulates spontaniously, or exhibits a seperation of serum. On this subject the authors I have consulted are not sufficiently explicit; but in the dejections from a number of dysenteric patients that I have had a personal opportunity of examining, I have never seen a coagulation of blood, or a seperation of serum; nor am I aware that the more extensive experience of others has rendered them more fortunate than myself in this respect. It is true, Sir John Pringle, in detailing the post Mortem appearances of one of his patients, speaks of a coagulum of blood. But the sentence is too vague to justify the conclusion that the substance to which he applies the term consists of coagulated blood. His words are these: "Upon opening them" (the rectum and colon) "we found the coats thick

ened, the inside as black as the coagulum of blood, and the whole surface more or less covered with a dark coloured bloody slime." It is more than probable that this dark coloured & bloody slime constituted the coagulum to which Sir John Pringle alludes, for he immediately adds, the blood was no where collected in any quantity, but appears to have oozed through a number of fine pores &c. — Sir John Pringle, like the illustrious Morgagni, endeavoured to account for this discharge of blood upon the supposition that it was the result of hemorrhage from the minute arteries of the part, and Dr. James Johnson seems to entertain similar views on the subject when he says, if the plethora be great, blood itself will be poured out from the mesenteric vessels. But if subsequent observations should corroborate the opinion that the red matter which has been supposed to be blood does not possess the characteristic properties of that fluid, it will appear more rational to conclude that it is, equally with the mucous, the result of a morbid

secretion. I am acquainted with no data sufficient to invalidate the opinion that the red and white matters are simultaneously produced by the same vessels, though it has been supposed that if the blood appears in streaks it proceeded from vessels low down in the rectum, but if intimately mixed with the mucous, it proceeded from a higher source. —

Causes of Dysentery —

The dysentery has been generally classed with the autumnal bilious remitting and intermitting fevers, and evidently depends upon the same remote and predisposing causes. This is rendered sufficiently manifest by the fact that bilious fever and dysentery prevail at the same time and at the same place, the predominance being, in general determined by the uniformity or variation in the temperature of the atmosphere. Thus, marsh effluvia or a long continued high range of atmospherical temperature will produce bilious remitting or intermitting fever; but frequent intermissions from heat to cold, or a sudden diminution of atmospherical temperature will

give dysentery the predominance. Dr. Hillary, (who practised medicine in Barbadoes, a west India island in the 13th degree of north latitude, and who made very minute observations on the diseases which prevailed on the island, and the state of the weather,) informs us that very warm and dry weather rendered the cases of yellow fever more numerous; but when the perspiration was suddenly checked by cool and wet weather succeeding hot and dry, dysenteries became prevalent. In another place the same acute observer says "I have always found from the best observations I could make on the variations of the air and weather in this island, that if the months of May, June, July, and August were very hot and dry, and the following months of September, October, and November were accompanied with much rain, so that the air was rendered cool, moist, and damp, and if the intermediate days were very hot, I always observed that dysenteries were very frequent and epidemical, and generally were more or less malignant, as the above mentioned changes were greater or less, more sudden or more gradual,

and of shorter or longer duration." Sir John Pringle, who also made his observations on the persons of the sick, says "the heat and moisture of the air appear to be no less the chief remote and external causes of the dysentery, than of the autumnal remitting and intermitting fevers." Dr. Cleghorn, in his treatise on the diseases of Minorca, says "sometimes a tertian is changed into a dysentery, or dysentery becomes a tertian." The identity of the causes which produce dysentery and the bilious remitting and intermitting fevers is also strongly supported by a series of facts detailed by Dr. Buel, in the 1st volume of the New York Medical Repository. Dr. Buel made his observations in the town of Sheffield in the state of Massachusetts, where dysentery and bilious fever prevailed epidemically and simultaneously. This writer informs us that in June (1796) excessive quantities of rain fell, causing considerable inundations, upon the subsiding of which, considerable quantities of decaying vegetable matter was exposed to the sun; and before the 20th of July the dysentery made its appearance: but the months of Au-

gust was intensely hot and dry, during which time instances of bilious or marsh fever frequently occured," so that it was apparent that both disorders were endemic & epidemic. Dr James Clark says "the dysentery generally prevails at the same time that the remitting and intermitting fevers do, in the west Indies," and probably from the same causes;" and Dr Trotter informes us that on the coast of africa and in the west Indies, "dysentery is joined with intermitting and remitting fevers." Dr James Johnson, who observed the disease in its most aggravated state, in the East Indies, says "the most accurate observers are sufficiently agreed in attributing it (dysentery) to atmospherical impressions operating through the medium of the skin; or, in other words, to atmospheric vicissitudes." The observations of these authors, and the facts detailed by them, appear sufficient to establish the position that dysentery does not arise from any specific contagion.— Indeed the facts ~~detailed~~ detailed by Sir John Pringle alone would seem quite sufficient to establish this point, though

that deservedly eminent physician could not, on this subject, subdue the prejudices and errors derived from his predecessors. In his observations on diseases of the army, part 1- Chapter 3- he says, "on the 26th (of June) in the evening, the tents were struck, the army marched all night, and next morning fought at Dettingen. On the night following, the men lay on the fields of battle, without tents, exposed to a heavy rain. Next day they marched to Hanau, where they encamped in an open field, and on good ground, but it was then wet, and for the first two nights they wanted straw. By these accidents a sudden change was made in the health of the army. For the summer had begun early, and the weather had been constantly hot; but the free and uninterrupted perspiration had as yet prevented any general sickness. Now the pores were suddenly stopped, and the humors tending to putrefaction were turned upon the bowels, and produced a dysentery which continued a considerable part of the season. In the space of eight days after the battle 500 were sick

with that distemper; and in a few weeks, nearly half the men were either ill or had recovered from it." Dr Hillary also, although he could not entirely divest himself of the belief that the dysentery was contagious, seems to have been nearly emancipated from the thraldom of that error when he penned the following sentence: "As we have dysenteries constantly returning every year in the west Indies islands, with those rains of that time of the year, which are always epidemical, though not always equally ~~epidemical~~ malignant, no more than the seasons are always equally alike; may we not justly conclude, that the dysentery is most commonly thus produced from these causes, especially as these causes, are sufficient to produce it?" The circumstance of the dysentery returning annually with certain states of the weather, is sufficient of itself to prove that it does not arise from contagion; and there is another circumstance equally in point. The disease frequently attacks great numbers about the same time

and even a considerable distance from each other, when no kinds of communication had taken place. Authors are sufficiently clear on this subject; and I can bear testimony to the fact from personal observation.—

If the position be correct, (and facts leave no doubt upon the subject,) that dysentery and bilious fevers in its various forms, arise from the same remote cause, I think, with Dr. Bancroft, that "it is absolutely incredible that marsh effluvia should produce contagion, when they disorder the bowels, and not produce it when they occasion intermittent and remittent fevers."

That persons who go from a comparatively pure ~~air~~ to an inquinated atmosphere, where persons are labouring under dysentery, may be attacked with the disease, is a fact which I feel no disposition to controvert; but this is no evidence of contagion, otherwise our autumnal remitting and intermitting fevers must certainly be contagious. An inquinated atmosphere may produce dysentery, when there is not a case within a thousand miles,

and when, of course, contagion is out of the question.—
It has been contended however, and particularly by Sir
John Pringle & Dr Hillary, that although dysentery
may arise from other causes, it assumes in its progress
the contagious character. There do not appear to be
facts sufficient to support this hypothesis; and besides
it is contrary to the laws which govern other diseases
and the principle of distinct species of disease, upon which
all nosological arrangements are founded. Dr Arm-
strong, in his invaluable work on Typhus fever, page
266, says "All the observations which I have been able
to make incline me to believe that a fever is ~~not~~
never contagious except it originates from a specific
cause; and hence I am inclined to doubt the com-
monly received opinion, that diseases proceeding
from an ordinary cause may become contagious in
their course." The American editor, in commenting on
the above passage from Dr Armstrong, uses this em-
phatic language: "The correctness of this opinion will be

controverted by no sound pathologist. If there is any fixed law in physic, it is that which is founded upon the immutability of remote causes. No disease has yet been discovered which has assumed at any period of its existance, any of the attributes of contagion. If it be derived from a specific vitiated secretion, it is contagious as well in its nascent as in its mature state; and unless the cause when it originates were a contagion, it can never become so. It is the remote cause that stamps the character upon the disease, and unless contagion gives it the specific impression, we might as ~~well~~ rationally expect tares when we sow wheat, as to find contagion generated under any progressive change." If any disease arising from marsh effluvia could, in its progress become contagious, the yellow fever, from its malignancy, I presume would be as much prone to such a change as any other; and it is now pretty generally admitted that this disease is never propagated by specific contagion. —

The foregoing considerations induce me to believe there

is no exageration in the following remarks from Dr. Mosely on the Tropical climates. "As to contagion from infection in dysentery, I must confess I never saw an instance of it; neither do I believe there is any such thing.—

That marsh effluvia, or the product of decaying vegetable matter acted upon by heat and moisture, have considerable influence in the production of dysentery, is sufficiently manifest from the extracts already offered from respectable authors, and particularly from Dr Buoly observations; but I am not prepared to admit that this agent acts as the sole remote cause, or that its presence is absolutely necessary to the production of the disease in question or the milder formes of bilious fever. March effluvia cannot be supposed to have had much agency in producing the dysentery in the army that was encamped "in an open field and on good ground" at Hanau; and Dr Mosely says "it has often happened that hundreds of men in camp have been

seized with dysentery, almost at the same time, after one shower of rain, or from lying one night in the wet and cold." Dr Hillary attributes dysentery to great atmospherical vicissitudes, viz. to cold and wet weather succeeding hot and dry; and as dysentery is a pretty regular attendant on the rainy seasons in the west Indies, and its violence determined by the degree of variation in the weather, marsh effluvia cannot be considered as the remote or predisposing cause.

Dr Bancroft thinks that the dysentery produced by atmospheric vicissitudes "is not exactly like that which principally results from marsh effluvia; that it has a greater similitude to diarrhœa, and if accompanied with fever, that this is nearly related to that of catarrh." That there may be a difference in grade, in proportion to the intensity of the remote cause, is quite probable; and believing, as I do, that heat alone will predispose the system to an attack of dysentery, I can readily conceive that, (all other circumstances being alike,) where

heat and marsh effluvia are conjoined, the disease may be more violent in grade than when it results from the influence of heat alone.- If, as Dr Bancroft intimates, there is a specific difference in the dysentery produced by marsh effluvia, and that which results from a sudden diminution of atmospheric temperature, it would seem to follow to follow that marsh effluvia exert some direct or specific influence upon the system. This indeed appears to be the opinion of Dr Bancroft when he says (On yellow fever &c, page 362) "the causes which determine the morbid influence of marsh effluvia towards the intestines, so as to excite the disease in question, rather than intermitting and remitting fevers, do not seem to be well understood." The difficulty on this subject arises from our imperfect knowledge of the modus operandi of marsh effluvia when applied to the human system. The correctness of the opinion that marsh effluvia exert a direct or specific influence upon the system, I believe was first called in question by Dr Sta-

ley in an essay on billious fever, published in the 5th vo-
lume of the American Medical Recorder. Dr. Staley en-
deavours to sustain the opinion that marsh effluvia
exert no direct or specific influence upon the system;
but supposes this effects to depend entirely upon the ex-
clusion of a part of the accustomed portion of atmos-
pheric air from the lungs. A high range of atmos-
pheric temperature he supposes to act in precisely the
same way, and consequently that there is no specif-
ic difference in the diseases produced by solar heat,
or a rarefied state of the atmosphere alone, or by
that and marsh effluvia conjointly. — Having adopted
the opinions of Dr. Staley on this subject, I will endeavour
to illustrate the correctness of the position as clearly and
concisely as possible —

That a high range of atmospheric temperature pro-
duces a very considerable effect on the human system is
proved by the fact that in warm latitudes, and during the
warm seasons of temperate climates the billiary an perspi-

ratory secretions are much greater than where the temperature of the air is not so high. The manner in which this influence is exerted does not appear to be so well understood by most medical authors, though Dr. Pierson has given a very able paper on the subject under the head of "The decarbonizing functions of the lungs" in the Transactions of the Physico-Medical Society of New York. The result of Dr. Crawfords experiments may serve to throw some light on this subject. According to Dr Crawford "The quantity of oxygen gas consumed by a man in an hour when breathing air of the temperature of 54 degrees was found to be 1344 cubic inches: when the air was raised to 79 degrees, only 1210 cubic inches of oxgen gas was consumed in the same length of time; making a difference of 134 cubic inches." It has been observed that carbonic acid gas is exactly equal in volume to the oxygen gas consumed in its formation; therefore, by elevating the temperature of the air we breathe from 54 to 79 degrees, the blood parts with as much less carbon per hour as enter-

ed into 154 cubic inches of carbonic acid gas."— This would leave in the circulating mass per hour just one tenth part of the carbon that would have been thrown out at the temperature of 64 degrees; and when the temperature of the air is raised to 90 degrees and upwards, as is frequently the case, the quantity of carbon retained per hour will amount to about one seventh.—

The experiments of Crukshanks and others lead to the conclusion that the skin, in the process of perspiration acts as an auxiliary to the lungs in the seperation of carbon from the blood; and the experiments of Fourcroy and Blumenbach indicate that the liver is concerned in a similar office. These experiments derive considerable support from the fact than when the lungs seperate the least carbon from the blood, viz. when the temperature of the air is considerably raised, the perspiratory and billiary secretions are augmented.—

If then by raising the temperature of the atmosphere from 54 to 90 degrees, the skin and liver are called upon

to discharge nearly one seventh part more carbon, it may readily be conceived they are brought into excessive action, as is uniformly observed in those who go from a temperate to a tropical climate, or during the warmer seasons of temperate latitudes.— If a rarefaction of the air alone produces this effect, it must follow as a necessary consequence that the evil will be increased when this rarefied air is loaded with miasmatic exhalations, still further diminishing the quantity of atmospheric air, and consequently of oxygen gas received into the air cells of the lungs in a given time. Hence I can see no necessity for attributing to marsh effluvia any specific agency in producing the disease, or of supposing those effluvia to possess any poisonous quality.— Dr Pierson thinks that a high range of atmospheric temperature may act as the remote, and marsh effluvia as the exciting cause of bilious fever; but according to my view of the subject, this opinion does not appear to be well founded. I view them as both acting in precisely

the same way, and that heat alone, when long continued, or heat and marsh effluvia combined, (as they generally are when marsh effluvia are evolved,) may act as the remote or predisposing cause of bilious fever or of dysentery. This opinion receives considerable support from the fact that when the milder grades of bilious fever, frequently occur when their origin cannot be traced to miasmatic exhalations; but the more violent grade of the same disease in the form of yellow fever never occurs except miasmata are superadded to heat. The identity of the ordinary bilious remitting fever and the bilious yellow fever is now pretty generally admitted; and as the dysentery arises from the same remote cause, what reason have we to conclude that difference in grade in the latter disease is evidence of a specific difference in character? — What particular effects carbon when in excess might produce in the system I am not prepared to say. Dr. Pearson thinks it acts as a "deadly sedative;" but I do not refer the evils which follow the application of heat and marsh effluvia to the sedative effects

of carbon in the blood. Dr James Johnson, in his treatises on the influence of Tropical climates, and derangements of the liver &c has handsomely illustrated the principle that excessive action produces the indirect debility of Dr Brown. The same principle has led to the following remarks from Dr Staley: "But it is a well established physiological fact that an organ from long continued excessive action becomes debilitated and its functions deranged. Hence it is no forced construction to say, the liver under the above circumstances, becomes affected with indirect debility, or torpor from excessive action; its functions become deranged; its offices irregularly performed: and derangement of the digestive organs, and consequently of the whole system are the consequences." When the skin and liver are inordinately excited, the predisposition is established; and when the causes which produced this effect continue to operate a degree of torpor will be produced which will subject the patient to an attack of bilious intermitting, remitting, or yellow fever, according to the intensity of the re-

mote cause, without any perceptible exciting cause, or from a very slight one, as irregularity of diet or drink, or exposure to night air. But if a sudden diminution of atmospheric temperature occurs, accompanied with moisture, so as to give a sudden check to the perspiration and consequently to biliary secretion, dysentery will be the consequence. From this view of the subject I apprehend that Sydenham was not mistaken when he considered dysentery as the fever of the season turned inward upon the bowels. Though Dr James Johnson thinks this expression of Sydenham is perfectly unintelligible, he has produced the authority of his name and the result of his observations in confirmation of the principle of which Sydenhams opinion is predicated. In his chapter on dysentery in the invaluable work on the influence of the tropical climates Dr Johnson says "the same cause that, applied to one person, will produce bilious fever, in a second gives rise to hepatitis; in a third to Mort de chien; and in a fourth to dysentery." Thereupon

consider long continued solar heat and marsh effluvia or miasmatic exhalations as the agent which acts as the remote and predisposing cause of dysentery; and cold; or a sudden diminution of atmospheric temperature accompanied with moisture, as the exciting cause of the disease in its epidemic form. Any agent that will produce a sudden check to the perspiration and billiary secretion when in excess, may act as an exciting cause, as the application of cold water to the feet &c. but in this way sporadic cases only will in general be produced; and hence we may account for the circumstance that one person is sometimes attacked with bilious intermitting or remitting fever, while another person equally predisposed will be attacked with dysentery. When the skin and liver are inordinately excited from the causes already mentioned, they are, they are in proportion to the degree of this excitement above the healthy action, more easily struck torpid upon the application of an exciting cause, as cold for example; or the excitement may be so great as to produced torpor from excessive

action alone, and functional derangement is the necessary consequence. Torpor of any secretory organ will necessarily be followed by a diminution in its respective secretion; and when this effect is produced upon the liver and skin, besides the inequilibrium of the circulation which must inevitably result, the digestive organs suffer from the diminished quantity and vitiated quality of the bile. If the inequilibrium in the circulation is not very extensive or suddenly produced general fever will be likely to ensue, because no local part is suddenly oppressed, to the exclusion of the rest: But if, after having been inordinately excited, the biliary and perspiratory secretions are suddenly checked by an adequate cause, as the application of cold and moisture, the blood appears to recede from the surface to the interior of the system. In this state of things, the hepatic vein being partially obstructed, the mesenteric and mesocolic vessels necessarily become surcharged with blood, and a morbid secretion in the coats of the intestines, or on the internal surface of the body, fol-

lows as an inevitable consequence. Thus, I think, we may account for the causes which determin the morbid influence of marsh effluvia towards the intestines, so as to excite dysentery, rather than intermitting and remitting fevers. Other causes of dysentery have been enumerated by modern authors, as putrid aliment and certain changes of diet; but whether these are sufficient to produce dysentery independent of a predisposition contracted by the operation of the remote causes above mentioned, is a question that does not appear satisfactorily settled. — The circumstances detailed relative to the detachment of United States Troops stationed in Baltimore in 1799, do not seem to justify the conclusion that the dysentery which pervaded that detachment arose exclusively from the operation of spoiled or semiputrid beef taken into the stomach. Although these soldiers were in vigorous health and spirits when they arrived in Baltimore, their active in marching from Pennsylvania to the latter place in the warm months of June, and their subsequent inactive state in Baltimore, may

have laid the precis position to the dysentery with which they were afflicted in July. As the illustrious professor to whom we are indebted for an account of the situation of those troops, (and to whose lectures I have listened with inexpressible pleasure and satisfaction) has said nothing relative to the state of the weather in July, it is impossible for me to determine what agency the atmospheric vicissitudes had in exciting the disease. - But I think there is no difficulty in shewing the manner in which the predisposition was laid, when we reflect that in July the weather in Baltimore is warm, and the air consequently rarefied. "Seguin examined his own respiration, in a state of rest, and found that 1644 cubic inches of oxygen gas were consumed per hour. After briskly exercising for a quarter of an hour it was found, that he consumed oxygen at the rate of 3200 cubic inches per hour, which is 1556 cubic inches more than when in a state of rest." Similar results were obtained by the experiments of Lavoisier. The active exercise then, of the soldiers in marching from Pennsylvania to Bal-

tumors and their subsequent inactivity in a rarefied atmosphere may have laid the predisposition to disease upon the principles laid down in a former part of this essay. The putrid aliment may have had some agency in determining the character of the disease: But as has been already intimated, I cannot determine what share to attribute to this agent, and how much to atmospheric vicissitudes.—

The circumstances detailed relative to the dysentery on board the ships engaged in the African trade in September 1816 are still more inconclusive in support of the agency of putrid aliment or sudden changes of diet. The author says "the extreme heat of the climate, and heavy gales rendered the vessel wet, and all the rice and bread on board were damaged."

Such hot beds of vegetable effluvia in a hot climate, accompanied with gales of wind, and moisture on board the ships, are surely sufficient to account for the production of dysentery, without calling in the aid of putrid ingesta or the change from full diet to short allowance. I am not, however, disposed to deny that putrid aliment, or a sudden change

of diet may act as co-operating causes of dysentery; but candour compels me to acknowledge that I am not prepared to admit that they are sufficient to produce the disease, independent of the operation of other causes.—

With regard to the proximate cause of dysentery a very few remarks in addition to what has already been said, will be sufficient. It is evident that authors, in speaking of the proximate cause of diseases, have sometimes mistaken effects for causes; and at others the disease itself has been viewed as the proximate cause. The opinions I have embraced relative to the pathology of dysentery necessarily leads to the conclusion that functional derangement of the liver and a consequent plethora of the mesenteric vessels must be viewed as the proximate cause of the disease. To endeavour to controvert what I conceive to be the erroneous opinions of gentlemen deservedly eminent in the medical profession, relative to this part of my subject, would extend the present essay to an unreasonable length. I will therefore proceed to state my views re-

ative to the

Treatment of Dysentery—

Venesection appears to be the most powerful and important remedy in the early stages of dysentery. When carried to sufficient extent its tendency is to reduce inflammatory action, and consequently to prevent any augmentation of that local plethora which I consider as the proximate cause of the disease. If, as I conceive is the case, the liver becomes torpid or oppressed from excessive action, it follows that the great object of the physician should be to remove that oppression and restore those functions. The most important step to an accomplishment of that object, is the reduction of the quantity of circulating fluid, and the diminution of the force of the heart and arteries. These effects can be speedily and effectually produced by bloodletting only.— The quantity of blood which it is necessary to draw must be determined by the physician, from an attentive observation of the effects produced. The quantity may vary greatly according to the constitution and habits of the patient, and the

degree of inflammatory action. The blood should suffer to flow until a sensible impression is made on the action of the heart and arteries; and the operation repeated as often as the symptoms which first indicated its necessity occur.

The illustrious Sydenham was an advocate for bloodletting in dysentery; and Dr James Johnson has adduced strong testimony in favour of the utility of that operation at page 44 of his treatise of derangement of the liver &c. - Dr Johnson says "venesection lessens, at once, the plethora in the mesenteric vessels, and consequently checks the effusion from their mouths. A general relaxation throughout the whole system follows; intestinal strictures gives way; scybala and faecal accumulations pass off, and nature, thus relieved, attempts a restoration of equilibrium in the circulation and excitability, evidenced by some degree of action in the extreme vessels on the surface, and by a mitigation or cessation of the pain and irritability of the bowels." Dr Armstrong,

(on typhus fever page 325,) in speaking of dysentery says "if my observations be correct, early and sometimes repeated venesection at once diminishes the force of the abdominal affections, renders the system much more susceptible of the actions of purgatives and mercury, and not only shortens the duration of the disease but lessens greatly the changes of chronic affections supervening the primary disorders of the abdomen." — Notwithstanding the paramount importance of venesection, this remedy alone is not adequate to the cure of dysentery, without the aid of other remedies. — Though emetics are not universally recommended for the cure of dysentery, I cannot persuade myself that this class of medicines is not entitled to a conspicuous place amongst the remedies for this disease, and particularly in its early stage. The medicines from this class which appear to be most appropriate in the treatment of dysentery are the Ipecacuanha and the Tartrite of antimony and potash, either sep-

rate or combined. Sixteen or twenty grains of calomel with two or three grains of the emetic tartar, made into a pill is a good emetic and in a convenient form, and is very appropriate in the disease in question, particularly when the irritability of the stomach, or the aversion to Ipecacuanha is such as to afford grounds for apprehending the immediate rejection of the latter medicine. The operation of an emetic not only removes from the stomach all offending and irritating substances, and thus prepares that viscera for the reception of other medicines, but it also causes a determination to the surface as is evidenced by the perspiration which is excited during the act of vomiting. The equilibrium of excitement thus produced, and the mechanical effects of vomiting, when venesection has been premised, frequently restores the billiary secretion, and thus removes plethora of the mesenteric vessels. By exciting a free perspiration an billiary secretion, the equilibrium of the circulation is restored and consequently a temporary amelio-

ration or suspension of the griping, tenesmus, and bloody discharges from the bowels is produced. This class of remedies, however, does not appear to be so well adapted to the protracted stage of dysentery. The contraction of the abdominal muscles in the act of vomiting might, mechanically, produce an injurious effect upon the intestines, already in a highly irritated and inflamed condition. —

To render permanent the relief afforded by venesection and emetics, other remedial agents are necessary; and among these mild Muriate of Mercury maintains a conspicuous rank. This remedy appears applicable to almost every stage of the disease, and has been given in various doses, either alone or combined with other articles of the materia medica. Dr James Johnson informs us that he used calomel as a remedy in dysentery in almost every parallel of latitude; and this celebrated physician and acute observer recommends the article in the highest terms. —

His first manner of using it, was to give it in doses of

from three to six grains, repeated sufficiently often to exhibit 24 grains in the day and night. With these doses the combined opium and pulvis antimonialis in sufficient quantities to give, in the same space of time, from two to four grains of the former, and from ten to fifteen grains of the latter. But from subsequent experience Dr Johnson was induced to give the calomel in scruple doses, repeated two or three times a day till ptyalism was produced. Dr Johnson states it as a remarkable fact that a scruple of calomel will sit easier on the stomach than either a larger or a smaller dose; and Dr Armstrong, who is also an advocate for the mercurial plan of treatment has also adopted the scruple doses of calomel. It is somewhat remarkable that when ptyalism is produced from the exhibition of mercury in dysentery, the intestinal irritation immediately ceases entirely or is greatly reduced in violence. Ptyalism then, should be excited as speedily as possible

and hence we may account for the propriety of giving calomel in such immense quantities as are recommended by Dr Johnson and the american editor of of Dr Armstrongs valuable work on typhus fever.— Calomel being such an important remedy in the treatment of dysentery, I should be induced to prescribe it liberally. If an emetic had been premised, a scruple of calomel should be given in two or three hours after its operation; and if was not thought advisable to give an emetic, calomel should be the first medicine exhibited. This quantity should be given twice a day, or in violent cases three times a day till the gums became affected. The first dose should be followed, at intervals of two or three hours, with full doses of cold drawn castor oil, or the sulphate of magnesia until copious fecal or biliary evacuations are produced. If the stomach will bear it, small portions, from a fourth to a half a grain of the emetic tartar may be added to each dose of the sulphate of

magnesia with advantage. After the bowels are freely opened, a recurrence of the irritation they suffer may be measurably prevented, and the equilibrium of the circulation promoted by the exhibition of an opiate combined with some carminative, as ipecacuanha or the antimonial powder every two or three hours intervening the dose of calomel. The Pulvis Doveri will answer the purpose very well, but the proportion of opium may be varied according to the degree of inflammatory action, or the violence of the intestinal irritation. In those cases where the irritation and griping are very severe, from one to two grains of opium may be combined with the calomel. If the calomel is not sufficient to keep the bowels laxative state recourse must again be had to the ol Ricini, the sulphate of magnesia, or some other aperient. The Pulvis Rhei has been much celebrated as a cathartic in dysentery, upon the supposition that it posses, with its cathartic, some degree of astringent property; and when

there is great aversion to the ol Ricini and sulphas magnesia the Rhubarb may be a good substitute, though I am not aware that it possesses any extraordinary virtues as a remedy in dysentery. Jalap, though generally condemned on account of the drastic manner in which it operates, has been prescribed by my Preceptor, in conjunction with calomel, with very pleasing results when the origin of the disease could be traced to the influence of marsh effluvia.

If prompt and energetic measures are resorted to in the early stage of dysentery, I apprehend that astringents will rarely be found necessary, though the acetate of lead has been recommended by several writers in the american Medical Recorder. The propriety of using astringents in dysentery, to me, somewhat questionable; and if given to the exclusion of demulcents and evacuants, they may be extensively injurious. If they arrest the discharge of blood and mucous, (which appears to be the object for which they are given) before

the perspiratory and billiary secretions are restored, they will increase the local plethora, and thus act as a fuel to the flame they were intended to extinguish; and permanent obstruction and induration of the liver may be the consequences.—

The warm bath, when it can be resorted to will be serviceable by relaxing the surface and promoting the secretion peculiar to that part of the body; but it is a remedy too inconvenient for general use, particularly in country situations. The pediluvium however, can always be resorted to, and should never be neglected, as it has considerable effect in promoting perspiration and consequently an equilibrium of the circulation.—

Where there is great irritability of the stomach, or a fixed and constant pain in the abdomen or right hypochondrium, epispastics are useful. The particular manner in which the beneficial results of epispastics are brought about appears to be a desider-

ration with medical authors. It does not appear improbable that the principle part of their beneficial effects arises from the influence they exert upon the nerves, through which they tend to equalize the excitement of the general system. —

When acidity prevails in the stomach, causing flatulence and eructations, some absorbent, as the calcined magnesia or Creta Preparata may be combined with some of the medicines above mentioned, or given seperately with advantage. —

When the pulse sinks, and symptoms which threaten approaching gangrene take place, Tinctura or the Cortex Cinchona with wine or Cognac brandy should be given to an extent proportioned to the urgency of the symptoms. But during the existence of inflammatory action, tonics, or antiseptics as they are termed, are inadmissible. Even when the fever of a dysenteric patient is completely intermittent, tonics should not be exhibited, before the local

plethora is removed by calomel and sudorifics.— Glysters of starch, or some mucilaginous substance are frequently administered, and when they can be used without causing much irritation at the extremity of the rectum, they may afford a temporary abatement of the intestinal irritation and griping.—

With a view of promoting as much as possible, an action on the surface of the body, as well as to guard against a relapse from a sudden impression from variation in the temperature of the atmosphere, flannel should be worn next the skin. Mercurial frictions over the abdomen, and a flannel roller round the body, as recommended by Dr Johnson, no doubt may prove serviceable.—

The general principles of the practice here adopted, I presume will be found applicable to the dysentery as it is generally met with; but peculiarity of circumstances may require some modification in the the curative plan of treatment. When dysentery is

complicated with typhus fever, the treatment must be adapted to the character of this fever, and consequently the depleting plan cannot be carried to so great an extent. And, according to Dr Armstrong, (page 338,) "if dysentery were to attack soldiers while resting in a camp and well-fed, it would bear the active treatment before mentioned; but if it were to attack an army worn out by disasters, retreat, and want of food, much milder measures would be expedient; and it is no doubt to the different circumstances under which the same diseases are liable to appear, that we must attribute part of that discrepancy of opinion which exists respecting their cure."

The diet throughout dysentery should be light and of easy digestion, as arrow-root, rice, or rice boiled stiff and then put in milk and the whole gently boiled together, calfs-foot jelly, Jamisons crackers made soft by being thrown in hot water or tea, &c. Wheat flour that has been well boiled, and then mixed with milk, and

moderately seasoned, constituting what nurses term
soup, is both palatable and proper. The drink should
consist of warm tea, weak coffee, chocholate. An infusion
of flaxseed, from its mucilaginous quality, would ap-
pear to be a suitable drink for a dysenteric patient.—
During convalescence the utmost caution should be
observed in order to prevent a relapse. Exposure to ri-
ght air or atmospheric vicissitudes before the debi-
itated vessels which suffered most during the disease
recover their tone, will in all probability be followed
by a relapse. An imprudent indulgence in gross
or irritating articles of diet may be followed by a
similar result.

Thus much I have thought it my duty to say relative to the
disease which I selected as the subject of my inaugural disser-
tation. The essay is much longer than I originally intended
it should be; and this circumstance, I trust will be received
as my apology for not dwelling more minutely on the
disease as it is complicated with other affections.

An

Inaugural Dissertation

on

Enteritis

Submitted to the examination of the

Rev. James Kemp D.D. Provost

and of

The regents of the University of Maryland

for the

Degree of Doctor of Physick.

By John Denny

of Baltimore Co. Maryland

1825

1825

To William Denny M. D.

This dissertation is dedicated, as a
tribute of affection,
from his brother and
Pupil.

Essay on Enteritis

The subject of this essay is one of those inflammatory diseases which sometimes affects the abdominal viscera. The division of Dr Cullen into the Phlegmonic and Erythematic being of no practical utility, I deem it useless to speak of the two species farther. According to the method laid down by authors, I shall proceed to the consideration of its Symptoms - Termination - Causes - Diagnosis - Prognosis and Treatment.

Symptoms. Acute pain in the abdomen, which is increased upon pressure and shooting in a twisting manner around the umbilicus; obstinate costiveness; tension of the abdomen; tenesmus or vomiting, as the inflammation happens to be in the superior or inferior portion of the intestine; the vomiting is generally bilious or dark, fatid and in some instances stercoraceous; pyrexia; quick hard contracted pulse great prostration of strength. When the inflammation extends to the stomach the pulse becomes depressed, but in Enteritis alone it is always tense, until inflammation is subdued.

Its terminations are in Resolution, Suppuration, and Gangrene.

Chapter
on
Electricity

When it terminates in Resolution it is known by a gradual diminution of the Symptoms, and a free evacuation of the bowels.

When in Suppuration, which is very uncommon it is known by a remiss=ion of the febrile symptoms, by occasion=al pains and shiverings and purulent evacuation from the bowels.

Gangrene is marked by a sudden cepation of pain, and anxiety the patient becomes calm and collected while the countenance assumes a livid and indescriba=ble cadaverous hue; suppression of urine; hiccup; subsultus tendinum; delirium; con=vulsions and death.

Causes - Long continued cos=tiveness, may act as a cause in the produc=tion of Enteritis; colic long continued or badly treated is frequently an exciting cause There is a Chronic form of Enteritis which I believe is only spoken of by the Professor of the practice in this University, and this is most frequently the consequence of Colic at least it produces the Chronic form more often, as a consequence, than the Acute.

Any case of Colic, that does not readily yield to the usual remedies, and the pulse becomes tense-the patient should be bled in order, to obviate inflammation. Enteritis, is frequently produced by incarcerated hernia; indurated faces. Sudden changes of temperature sudden application of cold to the abdomen, when the viscera are predisposed, by debility-will excite it; repulsions of eruptions, when the intestines, are in the above mentioned state may act as the exciting cause. poisons taken into the stomach, though this more frequently excites Gastritis and the viscera become implicated by the extent of the inflammation: indigestible food. Besides the causes enumerated there are certain External causes- such as contusions immediately on the abdomen, or in the neighborhood. Incised or punctured wounds of the abdomen- balls paping through the intestines. In the list of causes thus given I forgot to mention in its proper place the metastasis of Gout and other diseases. I shall now, according to arrangement,

proceed to the Diagnostics of the Disease in question.

Diagnosis: It may be distinguished from Gastritis by the seat of the pain, and the pulse is more tense in Enteritis. From Colic it may be distinguished by the one being accompanied with fever - the other not; by the pulse being fuller and softer and by the pain being usually encreased by pressure in Enteritis and in Colic it is alleviated and the pulse as stated above is fuller and softer in Colic. From Hepatitis (with which it is almost impossible to confound it) by the seat of the pain by the sympathetic affection of the clavicle and shoulder - by the less prostration of strength and greater fulness of pulse and by the colour of the stools and urine.

Of the Prognosis: Favorable when there is a gradual remission of pain and other symptoms - the abdomen becoming less ten-

to the touch; the pain changing its seat and not confined, to a particular part; the belly no longer obstructed; a warm equitable sweat; the urine depositing a sediment; the pulse losing its frequency, and becoming natural:

"We are to consider the prognosis unfavorable when the symptoms indicating gangrene, as above given, are present.

I have now come to that most important consideration in the history of disease-its treatment. The first step to be pursued in the disease in question is free and early blood-letting no matter from what cause it may arise. The best guide for bloodletting in this and indeed all other inflammatory diseases is the continuance of the pain, and it should be reiterated so long as the inflammatory symptoms exist.

The blood drawn in Enteritis is usually size and this is a good rule for the employment of the Lancet. If the pulse should be accelerated, we are not to be deterred from energetic measures - the pulse will rise from venesection and it must be reduced, by the same remedy. At the same time that this active plan is carried into execution, local bleeding may be advantageously combined. With regard to the application of Blisters in Enteritis they should in no case be admissible until we have evidence of declining action. It is necessary in some cases to apply them frequently. I am inclined to suppose a priori, that the Tartar Emetic Ointment might act as valuable assistant in the treatment of this disease but as I have never witnessed its application, I cannot speak of it from experience.

Having recommended, from the best authority, the free and decided use of the lancet, I come now to speak of its auxiliary - purging. Medicines of the Cathartic class are more readily retained in Enteritis than in Gastritis, where the patient can retain purgatives oil is best adapted and I have read of cases where a great quantity of olive oil has been taken in, with a beneficial result when no other medicine could be retained: its administration therefore should always be advised. Enemas in Enteritis are invaluable: the Tartarised Antimony is said to have succeed in the form of Enema when all others have failed. The warm bath has frequently been resorted to with beneficial results, owing to its being employed too early in the inflammatory stage: it should never be used in this or any other morbid affection arising from inflammation, until the

reduction of action. Dr Potter has remarked that when the warm bath is exhibited during the continuance of increased excitement and carried to the extent of affecting the general system, it produces suppuration by its stimulating powers, causing indirect debility. Mercury adds the same authority is of less use as an alterative, in fevers, than in any other fever. The exhibition of cold water, has been unequivocally condemned, rather it would appear in coincidence with popular prejudice, than sound philosophy. It may be advantageously employed as an injection, with care, by lowering its temperature gradually. A watery solution of opium applied to the abdomen will be found to assist the above remedies it acts by lessening the sensibility.

During the treatment the

the patient's strength may be supported by mild nourishment and when all traces of a morbid character have yielded to a healthy action he should be reminded of the causes of the disease and be advised to keep up an equable determination to the surface, by wearing flannel.

From what has been in the foregoing pages written, it may be seen that the curative indications are: To allay the inflammatory action of the bowels. To keep the bowels open: first By general and topical blood letting 2nd by the warm bath and fomentations and third by the frequent exhibition of purges.

The description of the above disease has not been given from my own observation but is taken from authors in it I have advanced no new opinion as I have never seen the disease in practice. The application of the tartar emetic ointment I have never known recommended but have thought it might be useful from the modus operandi of its action. Having said all that is necessa

on my subject it remains for me only to make a few observations on the character of the University before whose consideration this essay will fall. The illustrious father of the Institution may well look back with a feeling of manly pride and satisfaction upon the work of his own undertaking. He has watched over it in its incipient progress and did not forsake it when the adverse storm lowered around its walls and threatened to overwhelm the fabric with desolation. Nurtured by his attention and fostered by his principles it has attained a rapid and unparalleled progress. The University of Maryland can commit unhesitatingly to the world the alumni of her creation with a proud consciousness that the principles taught in her chairs will eminently qualify for their practice of their profession the youths who have supported her cause. To the Father of this literary school I have only to hope that when the evening of life has shed its last hallowed ray that the remembrance of his virtues and of his scientific attainments may long shed around his tomb their benignant lustre only to be extinguished when time shall cease. Of the several

gentleman connected with him, in the li
terary work, I must express my unfeigned and
undisguised satisfaction at the principles,
emanating from their chairs - trusting that
these principles may long reflect upon the
Institution over which they preside that bril
liancy which will in future secure her
from the persecution of rivalry and the animosi
ty of the ignorant.

Henry W. Fitzhugh

of Baltimore

Sam'l H. Lyon

Henry W. Fitzhugh

of Baltimore.

1825

Samuel H. Hamilton

Edward J. Collins

Infirmary

Thesis

by

Henry W. Fitzhugh

of Baltimore

1825

Hydrophobia is a term that has been long used by Nosologists to express a disease which they themselves admit is merely descriptive of a single symptom, which is sometimes absent & is not an unusual concomitant of various & very opposite affections. Since the publication of the Study of Medicine by the learned Doctor Good, the medical World appreciating his talents, and the fund of useful knowledge communicated by his enlightened publications are not only disposed to yield to him the meed of praise but also to coincide with him in his extensive view of the science & adopt his generic terms for the several diseases.

Dr Good in his 4th Class & 3rd Order remarks that the term Lyssa was used by the Greeks for Rabies, and that he has ventured to restore the Greek term as being far more classical and correct than the technical term of the present day which is Hydrophobia or Water dread. Since this is by no means a pathognomic symptom being sometimes found in other diseases &c. He further remarks that the symptom does not always occur in the disease & mentions a case as reported by Dr Baughan where the patient called for drink through the whole course of the disease. It is a fact well known to most Medical men that Hydrophobia or Water dread

may occur in many other diseases such as Cynanche Tracheali Hysteria &c- satisfied as to the incorrectness of the generic term Hydrophobia I think it high time it should be exploded & untill a more expressive one shall suggest itself to the Nosologist I am disposed to agree with Dr Good in adopting the Greek term Lyssa- The disease under consideration is one of great antiquity, authors have not pretended to date its origin; it may I think be considered coeval with the Canine Species- In considering the Remote cause I will merely mention some of them as suggested by different writers, or might rather say conjectured, as no valid arguments have yet been advanced in support of any one cause- One considers it Extreme Heat or Cold, another a deficiency of water, a third a want of perspiration, a fourth a worm under the tongue, a fifth putrid aliment &c- a learned Gentleman of this City has advanced it as his opinion that it depends upon Changes of temperature, & that all these, or some of them, mentioned as remote Causes such as Want of Water, putrid aliment &c are exciting causes- it has been sufficiently established that the disease very rarely, or never occurs in uniformly hot or cold climates-

although this would appear to be the most satisfactory & conclusive view as to the remote cause, yet it is ~~but~~ objectionable, and I fear it is a subject that must still be obscured from the penetrating eye of the pathologist—

In considering the action of the Canine Virus on the human system, I would first remark that a wound is essential to its communication. this fact has been opposed by Dr Stowe a German writer and a few others the Doctor in support of his opinion mentions the case of a boy who died of Canine Madness whose face had been licked by a dog that afterwards went Mad I hope that any attempt at refutation of such opinions as these will be deemed superfluous— It is a fact I think sufficiently established, that all causes acting on the nervous system when first impression is not sufficient to destroy life immediately, always result in re-action, and hence the analogy of this, to many other diseases, for instance, Apoplexy, the effects of Lightning, and most of the diseases arising from the action of animal poisons upon the system as Small Pox &c—

In Small pox we do not always find the system—

immediately impressed on the introduction of the virus, it continues to be a local affection for a time then by laws peculiar to itself, it exhibits all the phenomena of the disease- the first see the system expressing its sympathy by strong arterial action & the disease may continue its course in the form of a simple inflammatory fever- or in a system debilitated & incapable of resisting its more violent action, as in the Confluent Small Pox we have a fever assuming all the different grades from the most inflammatory to those of the lowest type, and in the commencement requiring all the necessary depleting measures & before its termination the patient may sink even under the administration of the most energetic Stimulating Remedies- The Canine virus makes its impression first locally, and may continue to exist in power on the point effected for an indefinite time- when by the agency of some exciting cause, its influence is extended to the system generally through the instrumentality of the nerves- or if received into a system previously susceptible, or when there exists great excitability or instability of

the Nervous system that we may learn all the phenomena of the disease exhibited in a proportionably shorter period. Although I have never seen the disease under consideration, yet after having noticed very minutely the several symptoms, as detailed by the many writers on the subject, and considered their accounts of success & failure of remedies that are diametrically opposite to each other in their operations & effects. I am irresistibly drawn to this conclusion Viz. That the action of the Contagium upon the human system invariably results in a fever, and that it is in many respects analagous to that of Confluent Small pox, capable of changing its character and assuming all the intermediate grades between that of the highest & lowest action - and if it would not be considered presumptive I would suggest, that the general Error in the treatment of the disease arises from, not having sufficient attention paid to these changes -

I shall now proceed to the consideration of some of the most prominent symptoms as they generally occur the disease very rarely makes it appearance before ten days. the ordinary time is from ten days to three

weeks after the introduction of the virus, there are known many instances recorded when the interval was much greater. there is one authenticated case when the disease did not make its appearance until a lapse of time of three years & four months. the first symptoms generally are a pricking & itching in the part wounded with some local inflammation. pain then extends from the wound towards the throat they become more & more violent & general, and of a convulsive kind, affecting the neck & joints, then are succeeded by a dull pain of the head, breast, stomach &c. these symptoms are preceded, or accompanied by lassitude, drowsiness, sometimes with vertigo. the mind seems disordered, temper irritable, slumber disturbed by violent convulsions. the patient then becomes very restless, eyes are red & watery. extremely sensible to the action of air & light. increased discharge from the salivary glands, which they spit or blow from them with most violence. the tongue is foul. great oppression of the precordia is a constant attendant. a tickling. nausea & sometimes vomiting. these symptoms are accompanied or

succeeded by fever, and sometimes followed by Delirium
at this time the patient sometimes has a violent aversion
to swallowing fluids or Solids, in attempting to swallow,
a view of the sight of liquids the most violent convul-
-sions with a sense of suffocation ensue- there is great
thirst & the fever increases- violent pain under the scor-
-bicular cordis- there is a particular fierceness & timidity
expressed in the countenance, violent convulsions returning
more & more frequently at length the patient sinks
exhausted- I have detailed the more ordinary symptoms, but
they are so various & differing in almost every case
that it is impracticable to enumerate them all-

The seat of Hydrophobia being but a symptom
of the disease I think is sufficiently established, but
we have great controversy of opinion as to the cause
of this symptom- We find this symptom not always
occurring, and I am inclined to think that when
'tis absent we always shall find the Muscles of
deglutition free from inflammation, this would ar-
-gue that the actual difficulty of swallowing & the pain
excited at the idea of, arose from the inability

to move the inflamed muscles, this is no doubt the cause in part, but in addition to the muscles of deglutition being inflamed, I would suggest the patients actual dread of being suffocated at every attempt to swallow liquids - and arising I believe, particularly from the inflamed state of the muscles of the Larynx; they like the muscles of deglutition, generally cannot perform their functions in a perfect manner. consequently the closure of the glottis is incomplete - although sufficiently to prevent the entrance into it of solid foreign bodies, yet not so completely as to exclude the more divisible particles of a fluid besides from the capacity of fluids to be extended over a greater surface, I can conceive of their being of a more general & permanent irritating cause, solids might be thrown beyond the region where the great difficulty exists & then probably their own specific gravity might cause them to descend

We find the disease considered as inflammatory by the great Boerhaave & might not his opinion have been predicated on actual examinations? for

we are informed by the report of all those that have made post mortem examinations, that the disease has, (but with one or two exceptions in which they might have mistaken the disease) invariably exhibited marks of inflammation either of the brain or its integuments, the stomach, the intestines, lungs trachea, or muscles of deglutition. Dr. Delabere Blair a man of enlightened mind, who has given great attention to this disease as it occurs in the Canine race furnishes us with the result of his examinations in many thousand instances where he invariably found marks of inflammation. He remarks "that the lungs "stomach & bowels are so invariably effected that there "not the least hesitation in considering what is mad-"ness (but what should be termed rabies) as a specific "inflammation of these organs, superadding the specific character of the complaint to the inflammation"

Before considering what I conceive to be the most consistent mode of treatment, I will notice some of those remedies that have not only deluded the hopes of the miserable sufferers under this tremendous and

formidable of all human Maladies, but have warped the judgement of thousands of individuals, received the mature deliberation, Sanction & reward of Enlightened Legis-lative bodies of this, as well as of most other countries- Experience has taught us of the palpable absurdity of looking for a Specific in any one medicine- but so long as Credulity and Ignorance are linked together we must expect to find them more disposed to repose in the shades of indolence, rather than search dili-gently for the Salutary precepts of Substantial truths- In every age has mankind been trammeled with some boasted Specific- at one time we see the famous Tonquin Medicine of the East Indies, at another the renowned Ormskirk medicine- again the celebrated powder of Palmarius- the pulvis Anti lyssus of Dr Mead the boiled liver of a Mad Dog- egg shells- oister shells- Valerian, worm wood and a thousand others that have flourished, failed & faded- Even in the present day our attention is arrested by some far famed Annagallis whose splendid virtues, bidding defiance to & disarming the monster Lyssa of all its terrors, yet fading under the

fostering hand of Monarchs and the meed of Poets-next we have the Many Mouthed Snake Stone, quite as ridiculous as its name denotes- again we are favoured with the never failing remedy of Crow's whose powers claimed the particular attention and reward of the phylanthropic & benevolent Legislature of New York- and last of all we see the Scutellaria Lateriflora rearing its head to offer consolation & relief to the hopeless patient. Here we have as little to expect from it as many of its predecessors- to close this catalogue of remedies. I would mention a method that has often been adopted to relieve the poor sufferer of all his troubles. even the very thought of it makes me shudder. I mean that most inhuman practice of smothering the patient to death- so long as we suffer these progenies to hold the ascendency over our judgement, and consent to be led by ignorance, and superstition, in vain will every attempt be to progress in Knowledge.-

In the treatment of the disease I shall in the first place proceed to detail what I conceive to be the best method adapted to secure the patient from

the inspection of the Virus, without noticing the very
many prophylactic Measures ~~already~~ as recommended
by different writers on the subject. Should the Wound
not have healed I would recommend that a strong
solution of the Vegetable Caustic be injected into it
by means of a Syringe. by which means the Caustic
may be brought into contact with every part of the
Wound, which gives it a decided preference over the
other methods recommended, the action of the Caustic
may be arrested, when necessary, by any Vegetable acid
Vinegar for instance. this method was first suggested,
and practiced with repeated success, by a very respecta-
-ble Physician of this City. next to the Caustic I
would give the preference to burning the part by
gun powder. in all cases the Wound should be kept
in a state of Suppuration for some time. Should
the Wound have healed I would open it and adopt
the same measures as suggested above. I would also
particularly recommend the use of Mercury both inter-
-nally and Externally that a Speedy Ptyalism might
be induced. the patients mind should be kept tranquil

and his thoughts as much abstracted from the disease as possible -

I shall conclude my observations by remarking that after the disease has once manifested itself in all its terrors, we must keep in view the position that I have assumed of its being a Fever, and address ourself with unremitting ardour & assiduity to all its changes - In this stage of the disease I do not believe that any particular rules can be laid down for its treatment - it must be left to the judgement of the practitioner to adopt such measures which under the attending circumstances of the case may be deemed most eligible. -

An

Inaugural Essay

on

Enteritis

Submitted to the consideration

of the

Right Revd James Kemp D.D.

Provost

and of the

Regents of the University of

Maryland

by

Joseph Martin

of Baltimore

Member of the Baltimore Medical

Society

1825

To

Nathaniel Potter M.D

Professor of the Practice of Physick

in the University of Maryland

This feeble Production is

Dedicated, not as a Memorial

of its Value to the Profession

But as

a Tribute of the Respect and

Esteem of the

Author

Thesis &c

Respected Sirs

The following thoughts are hastily thrown together (by dictation) in order to comply with the Laws of the University of Maryland previous to my receiving the highest honours of my Profession, and of a College which, I believe stands second to none on the Continent, and think I may venture to say second to none in both Hemispheres.

From the short time allotted to preparing an Inaugural Dissertation, independent of a serious accident which has befallen me, I feel sensible of the many inaccuracies which may abound but

but feel a lively hope that ~~the~~ being compell'd to write by the Stimulus of necessity, will be an ample Apology for all inaccuracies.

The Subject selected for the following Remarks is the Disease termed

Enteritis.

This Disease is generally placed by Nosological Writers in the Class Pyrexiæ and of the Synochal Order or Species and has two Varieties, namely, the Phlegmonick and Erysipelatous or Erythematous.

The first Variety is attended with pungent & some assert, twisting pain about the Umbilical Region particularly, and over the Abdominal generally, with Vomiting & Constipation &c; which Variety or Species is

is that to which, I design to confine my=
=self in the following remarks.

Enteritis like all other inflammato=
=ry diseases, is ushered in with a Chilly
Stage & subsequently Fever a Reaction,
Pulse small, frequent and hard (though
sometimes soft) and in the progress ir=
=regular, Vomiting — sometimes of a
bilious Character, Costiveness obstinate
at times slight mucous discharges fro
the Bowels, great anxiety, Eructation,
frequent, Urine sparing & voided
with difficulty, the strength fails,
the Extremeties become Cold — At
length the Vomiting becomes so violent
that the faces are sometimes thrown
up; the patient draws into a flex
position, relaying the Abdominal Mus=
=cles, after a time the pain abates
the

the Pulse (which had been irregular) is observed to change to soft & more regular, the Countenance Hippocratic, cold clammy perspiration & the indication of the approach of Gangrene, Syncope & Suppression of Urine, distention of the Abdomen with Flatulency & indicate the approach of Dissolution. —

This Disease is generally of a dangerous Character, & some times in the Space of a few hours it will terminate in Gangrene.

Another Result of Enteritis is Ulceration; which is discovered by a remission of y^e Symptoms, irregular Chilly feelings, distention,

Absence

Absence of pain, Pulse soft, the abcess bursting, the Patient recovers and dies: but this is not a frequent result if the diseased happens to fall into Skilfull hands.

It is sometimes difficult to discriminate, between Enteritis and other Visceral inflammations; for the inflammation frequently extends to neighbouring parts, creates a difficulty in ascertaining its chief seat. When the inflammation extends to the rectum it is difficult to distinguish it from Piles, though error in this respect will lead to no material error in Practice the treatment being the same. This Disease is distinguished from Colick, by the great sensibility to the

the touch over the Abdominal re=
=gion, in the former & the absence
of fever in the latter disease. It is
distinguished from Peritoneal In=
=flammation, by the pain in the
latter being more acute, inability
to move the Body or to raise it
which requires the action of the
Abdominal Muscles. —

Prognoses

The Favourable are Shifting Pain,
Vomiting only at intervals, Alvine
discharges procured by Clysters &c
Unfavourable are, when the Disease
is located in the ~~Larger~~ Smaller Intestines, for
the higher to the Stomach the disease
the greater the danger; Obstinate
costiveness, but in this much depends
on the habit of the Patient. Extreme
debility

debility, fluttering Pulse, cessation of pain — offensive Breath, pallid Countenance, Irregular Pulse, clammy Perspiration, black & fetid Stools &c &c

Causes

The same causes which predispose to Inflammatory diseases generally producing Debility might here be enumerated but it is deemed inexpedient.

The Exciting Causes may be found among the following, namely,

Cold from exposure to the changes of the temperature, long continued Constipation, Vitiated Secretions, Spasmodick Colick, Inverted Intestine &c &c

Termination

Enteritis may terminate in one of

of three different States viz. Resolution
Suppuration and Gangrene.

Resolution is the most favourable
termination, is frequently attend=
=ed with a gentle diarrhoea.

Suppuration though a rare ter=
=mination, but is much to be
dreaded if the disease continues
for many days without yielding
to remedies; which termination
is indicated by irregular Shiv=
=erings, a sense of Weight, Pain
Obtuse instead of Acute. Should
the abcess burst into the Cavity
of the Abdomen the danger is
imminent — but if into the Intestinal
Cavity a discharge of matter
from the Bowels indicates that

the Symptoms. We should proceed
general principles, which hold
good in other Inflammations of the
Viscera. The first remedy is Blood
letting, which should be employed
as far as the habit of the patient
will bear; considering the Disease,
one of a high grade of Inflammatory
action. The Blood letting should be
repeated according to circumstan-
ces, age, condition & habit being
taken into consideration.
Cathartics, should not by any means
be neglected, particularly such as
would give the least Offence to
the Stomach. For this purpose
Calomel stands foremost on our
list, interposing between the doses
Saline Cathartics, with a view
not only to assist its purgative
effect

result, Stoughings follow of the
Coats of the Intestines — Acute
& the Subject of disease lingers
for a time to suffer a painful
dissolution. Gangrene is
more frequently the result of
Enteritis than of any other Inflam-
-mation the tendency to which
is indicated by the Violence of
Symptoms & their not Yielding to
remedies. This result is indi-
-ted frequently by Cessation of pain, pulse
intermitting, Cold Clammy Per-
-spiration, Black thin Stools
Singultus, Syncope which
last frequently closes the scene

Treatment

In the treatment of Enteritis we
must proportion it to the Violen

effect, but also to profit by their febrifuge properties. Mild Cathartics are useful aids in effecting the intention just mentioned. The Saline Purgatives most certainly do tend to allay the action of the arterial System, therefore proper in all Inflammatory diseases. — Clysters might be call'd in to aid our intention here occasionally, but should be used with caution, lest the larger Intestines should be the seat of inflammation.

Fomentations will be highly useful particularly in the early Stage of Enteritis; as also are Rubefacients.

Local Bloodletting is no doubt a useful remedy in such cases of Enteritis, where gradual Abstraction

might be considered expedient & after general Bloodletting had been carried as far as might be deemed prudent or proper. The dread of debility in the cure of Enteritis, might be attended with a fatality much to be regretted. I am of Opinion, that there is but little danger to be apprehended from debility, generally speaking, in the treatment of Diseases of high Excitement.

Warm Baths might be employed with advantage before a severe degree of debility is brought on by treatment, together with the use of mild diluent drinks to induce gentle Diaphoresis.

But

but should there be much anxi=
=ety evinced by the Patient, the
baths would, either local or
general be inadmissible & should
give way to the more active Opera
=tion of an
Epispastic of large size, wh:
should be large enough to cover
the whole surface of the Ab=
=domen. —

Some writers have recom=
=mended the use of Opiates both
alone & in combination, no doubt
from a mistaken idea, that the
disease in question, should be
arranged among those of a
Spasmodic

Spasmodic Character. Opiates might possibly be beneficial, in irritable Subjects, but I would recommend much caution in the use of them and then, not until free evacuations had been established and even then would combine with the Opiates, some Purgative article, one of which should be Calomel

Convalescence.

During Convalescence, a most rigid adherence to light & diluting nutriment should be enjoined, for the disease is apt to recur for a

a very slight cause. Costive=ness and exposure to cold should be carefully avoided.

Dissections have shown, beyond doubt, that the disease in question is one of a highly inflammatory Character; tend=ing to run rapidly into the Gangrenous or Suppurative state. The inflammation, in Enteritis not only affects the intestines, but is apt to extend to the neighbouring Viscera Omentum, Peritoneum & Mesentery &c —

A Thesis

On

Insanity as illustrated by Phrenology.

Submitted to the examination

of

James Kemp D.D. Provost;

And to the Regents

Of the University of Maryland,

For the Degree of Doctor of Physick,

April 3d 1825.

By

Lunsford Pitts Yandell

of

Murfreesborough, Tennessee

"Tentare vias intactas"

To Charles Caldwell M.D. Professor of the Institutes
of Medicine & Clinical Practice in
Transylvania University:
Who is high minded, honourable & benevolent,
A zealous & successful cultivator of his Profession;
A writer, chaste, classical, and elegant;
A teacher, dispensing learning & science, and
Giving celebrity to the Country in which he lives:
As a small memento of esteem
and
Gratitude,
This is most
Respectfully dedicated
By
One who is
Proud to acknowledge him the founder
of his
Medical education,
and
The author of many of the views
Contained in
This dissertation.
The Author

Baltimore, March 12th 1825.

Preface.

In the following production the author makes no pretensions to great originality. A subject so often treated of by profound & learned authors is not susceptible of much novelty of invention by a mere tyro in Medical Science. Many opinions started by other writers, however, are supported by additional arguments facts & illustrations; some hints have been amplified & extended, and an effort made to establish a system of Pathology & Therapeutics upon a basis of mental Physiology. How far he has succeeded in this is for his able & impartial Critics & Preceptors to determine. He hopes they will allow him credit for some industry of research, at least, & for a clear application of the phenomena of mind in a state of health to the illustration of mental disorders.

It will be easily perceived that his theory is founded upon the system of Mental Philosophy lately originated by Drs Gall & Spurzheim — a doctrine in which, in all its details, the author cannot say he has perfect confidence, but so far as it relates to an exposition of the mutual cooperation of mind & Matter in all processes of intellection, notwithstanding the obloquy & ridicule heaped upon it by its enemies, he hesitates not to offer it as his opinion that it affords the best exposition of

e principles & faculties of the human mind yet
yond the world. And since true pathology must al-
ays grow out of a knowledge of natural healthy action,
e may not be considered sanguine in the indulgence of
a hope that this system may point out a happy &
uccessful method of treating the most dreadful dis-
rder "that flesh is heir to." The fascinating spell
f spirituality will, at least, be dissolved & the minds
f Medical philosophers be directed to matter, the seat
of all diseases. For the want of some lucid exposition of
the connexion between mind & body, like this, the cul-
ivators of Medical Science were suffered to grope in
darkness & uncertainty, treating of these disorders
under the vague title of affections of the mind,
the divinae particula aurae itself, unapproach-
able by the energies of our art.

If in the following pages any thing be found
supportive of the Science of Phrenology, or illus-
trative of its application to a plan of practice
whereby we may be enabled

"To raze out the written troubles of the brain,
And with some sweet oblivious antidote
Purge the stuffed bosom of that perilous stuff
That weighs upon the heart;"

the author will consider the time & labour which
he spent in their composition not unprofitably
employed.

Metaphysical Proem.

Mind in all ages of the world has been a subject of the Philosophers study & attention, & the theme of the Poets and Orators praises & admiration. Its nature, essence, faculties, and attributes, formed a matter of serious inquiry & investigation among the cultivators of Science of Greece & Rome. From that period to the present day it has had its admirers & its votaries, & continues still to form one of the most interesting & profitable branches of study. The disorders too which obscure its manifestations have not been overlooked or neglected. But notwithstanding they have been industriously investigated this class of disorders continues to remain enveloped in a thick cloud of ignorance & obscurity. While the treatment of other diseases has advanced to a considerable degree of certitude & success, that which the light of our knowledge has enabled practitioners to employ in these, is vague & inefficient. This disparity is, however, of no ancient date. A few years since saw each involved in a common obscurity. It was not until Medical Philosophers ceased to speculate & theorise & resorted to the sober method of experiment & induction, that Medicine assumed the shape of Science, & began to be practised with advantage & success. And we hope we shall not be considered dogmatical if we give it as our opinion that the same course must be pursued to lead to a clear knowledge of the

nature

nature, and a correct method of treatment in those diseases
hich assail the mind. The pathology of those disorders which
isturb the economy of the body has for its foundation a
nough knowledge of all the corporial organs, their func-
s & their laws; and in like manner we must look to the
erations of the mind in a state of health & perfection for
just understanding of its derangements-
But let us enquire for a moment if Mental Philosophy, as
posed in the most popular works upon that subject, ex-
bits a clear & intelligible physiological picture - such as
uld enable us better to understand ~~them~~ the nature of
ntal disorders - such as would constitute a solid basis
r a philosophical system of pathology. Certainly
at system does not promise much light or assistance to
branch of Science in which the faculties of the hu-
n mind are divided into Memory, Judgement, Imagin-
tion &c; since observation teaches us that a disorder
one of these faculties may refer only to a particular
bject, while on all others it retains its truth and
tionality. Thus a disappointed warrior may attack a
ck of Ship for his enemy, & yet be a philosopher
in his mind can be brought to bear upon another point.
The great errors & deficiences which run through
Metaphysical Systems of Locke Reid Stewart &c
under the subject confused & unintelligible are, those
making the mind a <u>Single General Power</u>, destitute
<u>faculties</u> except as acquired by habits of study; & as
dependent of Matter in the various process of intellection.

That these are errors, & such as must, while they prevail,
er prove an insuperable barrier to a definitive knowledge
mind in a state of health, & to the proper establishment
a solid & extensive pathological system of mind, must
admitted by every one atall accustomed to observation
ut these errors however grop are necessarily consequent upon
method pursued by the Metaphysicians in their studies &
estigations of Mind. In a state of health & perfection the
ind is inconscious of its dependance upon the body for
active intelligence, and so far from a knowledge of the
ssity for this mutual cooperation being of service to the
serv, it would serve only to perplex & to distract him.
- would find it impossible to engage in any analysis or
estigation while he felt that the brain was engaged. just
an attention to the exercise of vision would destroy all
pleasure arising from the view of a painting or land-
pe. An exemplification of this fact is daily to be
t with in affections of the brain, where we see the
ind always accompanying it, & suffering a correspond-
disarrangement in its economy, from the lowest grade
simple inactivity, consequent upon headache, up to
ging mania or delirium, the effect of phrenitis, or
ebral disorganization. Here the feelings declare that
ther is involved, & reference is immediately made to the
ain as the seat of the ailment. In like manner the stu-
t pursuing too long his investigations perceives a wearing
inactivity of mind which he feels to have its origin in
atigue & exhaustion of the sensorium.

These facts of themselves, independently of those furnished [?]
Surgical literature, in which the mind always participates
the laesions of the brain, or of the fact of the mind's devel-
ing its powers in proportion to the growth & maturity of
e brain; & falling off in energy & activity as the body
clines in old age, incontestibly prove the agency of
tter in all the operations of Mind. To these phenomena
ich have been universally observed & received as truths,
would be an act of supererogation to add that afforded
Monomania, where one faculty only is disturbed, the
hers retaining their accustomed vigour & correctness.
hese circumstances, then, taken collectively force us
dissent from the principles of those philosophers
o assert the paramount excellence of Mind, & its ade-
acy to thinking & perception without the aid of matter,
well as from the beautiful sentiment of the Poet, that,
The souls dark cottage battered & decayed,
Lets in new light through chinks that time has made".
For it has always appeared to us from our limited obser-
tion that the tenant suffers in proportion, here as
other cases, as his habitation is battered & decayed."
nd although we find nothing to object to in the Phi-
ophy which teaches that
Each wave of time some faculty destroys,
Drowns now the wish & next the sense of joys,
Breaks one by one lifes fragile wires that bind
The sinking body to the soaring mind,
Till one vast billow mightiest of the whole
Bursts.

"Bursts the strained cabinet & frees the soul"
et as it refers to a future, an altered, & as we are taught to
elieve, a more perfect state of existence, it cannot influ-
ce our opinions of physical phenomena - And that
y doctrine which teaches us to look forward to the sepa-
tion of the soul from its corporeal tenement; as a period
~~it~~ which is to consummate its purity & perfection, is
unded upon the principle of its connexion with matter.
r deprive mind of its material coadjutor, allow it sub-
t to all the changes & calamities, per se, to which it
pears incident; & we at once overthrow the doctrine of
immateriality, and as successfully a belief of its
mortality. Matter alone is susceptible of mutation, &
sequently of passing from a state of health to a state
disease - whatever is subject to these changes may be
lately destroyed, &, of consequence, to admit that mind
capable of any physical alteration independently of
atter, is at once to strike at the root of its eternal dura-
tion - In fine then, it appears that whatever
anges the mind suffers, - of health or disease, growth
decay - its energy or imbecility, gravity or sprightli-
ness, all depend upon altered conditions of the brain
- difference in the texture of the Sensorium -

The next error which I have mentioned as prevailing
the systems of the Spiritual Metaphysicians is that
describing the mind as "a single general power", a
tabula rasa", possessed only of capacity and
ctivity - This error, like the first, is corrigible only
by,

(+)

This apparent paradox, of the unity of mind & yet its endowment with a plurality of faculties, is easily reconciled upon the principle of its association with matter in all its operations - Though in its essence simple, indivisible, - occupying no parts, yet connected with an organ complicated in its structure, the manifestations of mind will appear various & multiform - Analogies for this are not wanting. The vital principle, which is simple in its essence when associated with the various organs of the body produces a variety of results - The principle of gravitation is equally productive of a variety of operations when applied to Mechanics - And thus we might proceed enumerate various other examples of this principle -

observation & experience. For as consciousness gives us knowledge of the faculty which is active, so in like manner it can never inform us correctly of the number belonging to the mind. As one faculty only can be in operation at the same time this faculty is all of which consciousness can take cognisance; & thus the mind turned upon itself presents the appearance of a single general power, susceptible, as well, of one application as another. But that this appearance is false & deceptive is proved by observation & all sound reasoning. We observe in the minds of different individuals various degrees of strength & activity — in characters various & discrete, & these varieties, holding as we do the mind to be an unit, & consequently the same essentially in all — are wont to attribute to a plurality of faculties. (*) In the same individual we often observe the power manifesting different feelings & faculties to be various & unequal. Thus, a capacity for languages shall be great, while the person is unable to comprehend Numbers, he shall be possessed of avarice while he is defective in Courage, shall feel the impulse of Natural love while he is insensible to the emotions of benevolence. And yet these are all faculties of the human mind, possessed in a more or less active state by every individual. The exercise & cultivation of one faculty, & neglect & disuetude of another strengthens the one while it enervates the other. Some of the intellectual faculties arrive early at maturity,

hile others are late in acquiring their wonted vigour
d perfection. But if the mind be a single general
ower, susceptible alike of all directions or applica-
ons, in what manner can we explain this diversity
energy in the mind of the same individual? If he
e capable of one intellectual exertion with suc
ss, if he excel in one branch of study, in one
-gion of science, his mind being a single
nergy, why not equally in all? How can that
ich is single, possessed of no attributes but activity and
telligence, manifest in the same individual a plural-
of faculties, varying in strength, and appearing at
ferent periods of his existence? To these interroga-
es the friends of the Spiritual system reply, all
is diversity in the faculties of the same person, &
is disparity in the minds of different individu-
, is owing to the force of example or education, or
rtunity, or to the powers of attention & association-
ut the mind being a blank, open alike to every im-
ression, capable of any direction, the same naturally
every individual, & dependent solely upon educa-
n for its character, then minds tutored by the same
cipline, & placed under similar circumstances
ust invariably exhibit the same marks of in-
lligence. Observation, however, teaches us the incor-
ectness of this. We see some persons favored by the
ost auspicious circumstances making poor ex-
hibitions of talent, while others opposed by every

difficulty

bstacle - by indigence & by obscurity, rising to repu-
tion, to fortune, & to fame -
There must, then, be some original disparity in the
inds of different individuals, or some difference in
eir powers of application - And to what else can be
tributed the difference of these powers but a radical
issimilarity & inequality in the constitution of the mind!
Here is some superiority in the mental texture of those
ho so far excel their more humble fellows - some
ider organization in the intellectual frame of a Newton
, a Franklin, or a Locke, which adapted them to ob-
vation & successful inquiry; - of a Shakspeare, a Mil-
, or a Byron, which enabled them to win the admi-
tion of the world; - of a Michaelangelo, or a Raphael, to
ich they owed their powers of painting & of Music -
Upon the principle of the minds distribution of
faculties coaptated together, & exercising over each
ter a mutual influence, in what manner are
to account for those commotions of feeling, those
nflicting passions which must have disturbed the
ppings of every one? The exercise of every faculty
of the mind is pleasant in itself - Hatred, jealousy,
venge, all afford to the mind during their ascendant
ction a species of delight - and it is only upon a cool
dispassionate reflection upon our conduct that
wickedness or impropriety appears - The miser
- his treasures, & griping after wealth which he means
ver to enjoy, does not the ridiculousness & folly of
his

is conduct while covetousness is the predominant
aculty- And does the lover with the same faculty which
mpts him to weave fair garlands for his lady's brows- to
athe forth his love-sick soul in tender madrigals, and
ich renders him ridiculous, turn about after the subsi-
nce of his feeling, & review with shame & regret his
haviour and his passion-
Nature, in the creation of her chef d'oeuvre, has not
far erred from her common course of regularity & order
to leave his mind indeterminate & unfinished, to the in-
luence & direction of fortuity or accident= To every
le branch of Science or art may the "poeta nascitur
fit" be applied, with the same truth as to the dealers
fancy- To every one whom Nature has destined to rise
ve an humble mediocrity, a track is laid out, which,
be successful, he must pursue- Truths so indispu-
le as these it would be superfluous to illustrate
th examples from Nature-
Notwithstanding the existence of faculties, in the
e sense of the term, is explicitly denied by the Met-
hysicians, they nevertheless enumerate certain op-
erations of the mind- certain general functions,
ich they have denominated faculties- They have
ed the words faculty, function, principle, & law
discriminately thus confounding attributes wholly
istinct= A faculty is the power or capacity for
performance of certain actions, possessed of in-
ate principles & functions, & regulated by certain
laws-

(*) A principle governs the faculty of vision leading it irresistibly to such a case half immersed in a denser fluid than the atmosphere, presenting an angle-

principle is merely an ultimate fact, without activity without functions. While a law is simply a general rule, characterising a number of phenomena, which are ultimate facts. For example; there belongs to our nature a faculty of seeing, of tasting, & of feeling, and each of these faculties we are capable of exercising or restraining at pleasure. Each of these faculties are regulated by their own proper principles & laws. Thus the eye beholds the objects which surround it when it is opened in the light, & a law comes to it to perceive those which are near it with greater accuracy & precision than those which are distant. The mind is possessed of a principle by which it is enabled to recall the ideas of the reflecting faculties, to direct & regulate their operations. A like principle exists in the human mind placing the passions & emotions from under the control of the will, giving them energy, & force, & vividness, & retaining their impressions beyond the power of its call. However great soever a difference may exist in the energy & activity of the faculties of different individuals, the laws & principles which govern them must be the same. A faculty is as different from its function as the liver is from the bile, or the Stomach from the process of digestion, which it performs. It is something specific & determinate, which the individual being possessed of, is indeed capable of the performance of certain actions, & which wanting is ignorant of its nature, & incapable of all its functions.

This, however, is by no means the case with the faculties of

the Metaphysicians. With them one faculty is
a function of another, and may all be traced back to the
power of Conception. An idea in their system passes
through a suit of faculties, & is first conceived by one,
associated by another, imagined by a third, & abstrac-
ted by a fourth. But from this it is abundantly evident
that all the faculties which they have enumerated are
simply functions, & that their views concerning them
are vague, indefinite, and indistinct.

In the systems of old-School Metaphysics, attention
memory, Imagination, Judgment & Association are enu-
merated as faculties. But attention is merely the ap-
plication of the faculties which perceive, and as the
perception of objects must exist in the mind previ-
ously to the application of attention to them, it can-
not be a faculty, but simply the function of per-
ception. Memory is incapable of exercise until the mind
is stored with facts giving field to its operations, & thus
comes the function of perception attention, & as-
sociation. The same objections apply to all the above
enumerated faculties, the exercise of the one being req-
uisite to the operation of another. Besides, it has
come within the observation of every one that a mem-
ber, imagination or Judgment upon one subject
does not necessarily imply the same upon all. The
reverse being most commonly true. A painter or
musician who shall remember all the nice shades
in a portrait, or the slight variations in a tune, will
often

ten be incapable of attaining a knowledge of languages mathematics. A mechanic whose ingenuity & judgment the design of his machines shall astonish the world, ay yet be a novice in logical reasoning, or in the common affairs of human life. The Poet, the fertility & sublimity of whose imagination may delight the minds of his aders in the more elevated walks of poetry, wild often fail in humble pastoral.

Provided that these wer faculties how could these things ewr? In what manner would it happen that a man whose dgment formed correct decisions upon certain subjects should be defective upon another, that the memory ich at a single effort could bring in review the whole talogue of past events, or the imagination with intuitive pow- scan the whole horizon of futurity, should yet when rned upon other matters prove treacherous & inefficient.

Division of Insanity.

Mental disorders differ from each other according the organ affected, & to the force and intensity of its rangement. But as the organs upon which the various aculties of the mind depend for their activity are so little understood, their number being not yet ascertained, & their motions involved in the deepest obscurity, it is evint that any classification formed upon this plan ust necessarily be imperfect. Yet as the common arrangement of these disorders is by no means complete or tisfactory, & as this holds out a better prospect for provement, & of arriving at perfection, it is the one which we shall adopt.

The division of mental diseases into Mania & Melancholia is highly imperfect. Since these alternate with each other - that which is simple Melancholy today, changes its features by tomorrow, into furious Mania - Besides, a derangement of some faculty upon particular subjects does not necessarily imply a complete mental disorganization - A man whose judgment leads him astray when under the inordinate morbid influence of Love, Ambition or Revenge, will get thro himself rational & correct on other matters - The character of Insanity is directed by the organ in which it has its seat, & its grade depends upon the intensity of the exciting cause, together with the previous predisposition existing in the part - If the cause be slight, & the power of resistance of the morbid impression be great, the disease will be general Melancholy; but if it be overwhelming, & the ability of the part to resist its influence be feeble, the person sinks into Mania or idiocy -

The peculiar physiognomy of mental disorders depends, as emphatically upon the organ deranged, as does Hepatitis Gout, Apoplexy upon the liver the brain or the Stomach - This peculiarity of Symptoms - If the organ be one whose exercise spreads pleasure & "the delightful sunshine of good-will to all" over the mind, the individual, in his insanity, will be cheerful gay & happy - disposed to extend favors to his fellow-men, & to meliorate the condition of all mankind - If, on the other hand, the organ be one

which in its operation excites painful feelings
fearfulness or hate, of suspicion or revenge, the character
the maniac will present a combination of every thing
at is horrible.

Since then it appears that individuals may be deranged
on one subject & sane upon another, or manifest different degrees of mental aberration on various subjects,
at division which does not admit them must be imperfect. The arrangement which appears to me to correspond
t with nature, is the one made by Esquirol, & lately
opted by Spurzheim; in which monomania is used
melancholia, & Polymania for mania, by which latter
understood a derangement of all the faculties of
mind. In the man deranged from the inordinate
ise of his feelings of vanity some morbid change
s been effected in the organ of the brain through
ich the operations of this feeling have manifested. So also the lunatic whose hallucinating idea
associated with the ideal excellence of female nature,
the excessive impulse of disappointed love owes his
rder to undue excitation in the organ of amativeness
e proximity & intimate relation in which the organs
the mind exist towards each other, precludes however the possibility of one labouring long under disease without calling some of its neighbors into sympathetic association.
ius, irregular action communicated to one region of the
ebral mass, is carried by quick vibrations through
e the catenations of the Chain.

The Causes of Insanity—.

The causes productive of mental disorders may be ranged under two classes,— physical & moral; under first head including all such as mediately or immediately injure the tone or organization of the brain; & comprehending under the second, those which producing a powerful or protracted mental emotion or excitement gives to some one organ an undue ascendency. The physical causes have again been subdivided to the dynamic—or such as act immediately on the nervous, & into the secondary or such as act through a medium of sympathy—

Though we use the term moral to characterize some the causes of Insanity, yet we would wish to be understood as having as direct a reference to some previous derangement in the physical laws with which the mind is associated, as when we speak of its disorganization by mechanical violence, or from the effects of inflammation—Notwithstanding mental excitement may be assigned out as the true remote cause, yet before that irregularity & obliquity of mind characteristic of lunacy appears, some derangement must first be wrought in the texture of the brain—The individual deranged from love, ambition, or religious enthusiasm professes his disorder as strictly from material imperfection or disarray, as him who is cursed with it by inheritance—Moral causes may provoke a facility of the mind to excessive action, but the disorder is seated primarily in the brain—

Dynamic Causes-

These causes may be again subdivided into, 1st, such diminish the energy of the brain by weakening its vessels through the excessive action of the heart- 2dly into those mechanical injuries which at once destroy the cerebral texture, and 3dly, into original malconformations- Under the first- class of this division is meant to be included fever & inflammation of the brain- Here, as in all other cases of inflammation, there exists an infarction of the vessels in which the inflammation is seated- This is an inevitable consequence of inflammation; for all the causes productive of this affection are such as are debilitating in their action- This infarction or engorgement of the bloodvessels of the brain, is however, by no means universal; for the Cranium being a plenum will admit of no more blood at one time than another, & consequently in proportion as it is accumulated in one part it is forced out at another- The language of undue determinations to the brain producing head ache, delirium &c, is neither precise nor correct, & should therefore be abandoned- For the reason which I have assigned it is evident the cranium must at all times contain equal quantities of blood; though this were not the case, & accumulations of this fluid could take place, it would not be upon the principle of increased determination to the part, but the disability of the vessels to perform their natural & healthy function-

That the march of the circulation is carried on through the whole system by the vis a tergo, or propelling power of the heart, is a fact in Physiology now clearly established. And since this is the case it must follow as a matter of course that the propeps of the blood must be the same in every part of the body, - in the head, the arteries of the foot, or radial of the arm. Then whenever we observe a disproportioned accumulation in any part, we are to refer it to the debilitated condition of its vessels. What the previous change in the life of the part is, which produces the weakness of the vessels & the phenomena of inflammation, the scrutinies of the Anatomist nor Pathologist has never yet been able to discover. In some cases of inflammation the tone as well as the sensibility of the part appears to be augmented. Thus when it supervenes upon a healthy brain its action is to oppress & derange the function of the organ. The degree of excitement existing in it in an ordinary state is the medium quantity of health, but the morbid change increasing this urges it beyond the healthy standard. A case in exemplification of this principle is related in the 45th vol. of the Edinburgh Review, of a young lady restored to activity of mind, & to the use of her Memory by inflammation of the brain in an attack of Typhus, who had labourd under fatuity from an early age. She, however, relapsed into her former state of imbecility when the excitement of the fever subsided.

Mechanical violence. This is an abundantly produce[illegible] source of mental suffering. The experience of every practical Surgeon can furnish him with numerous examples of minds

deteriorated in condition or changed in character from
lesions of the brain. This being the organ through which the
faculties, & feelings, & sensations of mind are manifested, every
cause which produces a permanent alteration in its structure
must be attended with a correspondent variation in the sen-
sient principle itself. Dr Spurzheim relates the case of
a boy who sustained a loss of mental energy by a blow upon
the head, but received in exchange an increase in his pro-
pensity to quarrel. Some change in the tone of the organ
of Combativeness was probably the cause of this singular phe-
nomenon. In the surgical observations of Averill, the case
of a boy is mentioned who suffering some cerebral disorgan-
ization requiring the Trepan for its relief, felt after his
recovery an irresistible propensity to steal. An analo-
gous change must have been wrought in some other
region of the mind in this case. Dr Tenner relates the
history of a similar case. Pere Mabillon, who after-
wards evinced such intellectual vigour & activity, is said
to have been dull & unpromising until he suffered a frac-
ture of his Cranium from the falling of a tile. Professor
Caldwell, in his Lectures, mentions the case of the Son of the celebrated Dr Priestly,
who, according to his father's own account, was dull
& unapt until his head was fractured from acci-
dentally slipping from a window. In his lectures
Professor Dudley relates a similar case of a Ma-
son. Receiving such a blow as destroyed several inches
of the Frontal & Parietal bones, with nearly half of the
anterior lobe of the Cerebrum, depriving him of Sen-
sation for the time

but ultimately, instead of affecting the mind injuriously
it increased his fondness for, as well as his powers of, argu-
mentation. In the loss & regeneration of so great a portion
of the brain more organs than one must have been affected,
but the Professor, more observant of points of practice than speculation,
suffered this to escape his notice. In the course of a year
the new organization of the brain of this patient ceased vig-
orously to perform its healthy function, he relapsed
into fatuity, & ultimately sank under the affection.

These are rare & singular examples of the fortu-
nate issue of mental injuries, furnishing strong
& convincing evidence of the connexion between mind
& matter, & in this condition, of the plurality of its
faculties. The cases in which a loss of intellectual
vigour has been sustained by the sufferer from lesions
of the brain are numerous. Few are happily blest
with an augmentation of mental energy in compen-
sation for the bodily suffering, in comparison with
those who are totally deprived of their reason.
I saw a woman in the Summer of 1824 wandering
through Tennessee a miserable idiot, produced by
a fall from a horse when she was a child. The
madness of the celebrated Hadsfield who shot the
King, was occasioned by a blow on his head. Slight
injuries of the Scalp sometimes produce Insanity.
Hereditary imperfection in the organization of the
brain is a frequent cause of this disease. Where the
disease inherited is complete idiocy, it depends
upon

a radical & thorough defect in the texture of the brain, while to Mania a predisposition alone exists. Of all hereditary diseases Insanity is most persevering, for though it may pass over one generation, the second rarely escapes, the disease clinging to the family till by admixture & proper management the taint is neutralized or drained away.

In the Cretins of Switzerland a remarkable example of this hereditary affection is furnished. Their whole frame indicates a want of tone & organization. Their brains are small & deformed, or immense in magnitude & misshapen, with the whole cellular substance of the body loaded with adipose or a fluid. They are born idiots from birth.

Indirect Physical Causes.

The causes which indirectly, or through the medium of sympathy affect the brain, & thereby disturb the mind are more numerous. The Brain being the origin of all nervous & sensorial influence, is necessarily the sympathiser of the whole system. In affections of the Stomach, Liver, the alimentary Canal, & the uterus in the Female, the brain holds an intimate consent. Melancholia & Hypochondriasis derive their names from their supposed origin. and although it is now is founded upon principles of the antiquated humoral pathology, yet it shows the influence which in a morbid condition this viscus exercises over the functions of the brain.

Whatever cause deranges the function of any corporeal organ so as to involve the brain must of necessity be productive of a mental affection. The liver, as its sympathies with the brain are more numerous & powerful, is the most fruitful source, in its diseased condition, of the mind's aberrations. But it is only necessary in corporeal affections to enquire the extent to which the brain is sympathetically involved, & we are acquainted with the condition of the mind.

Moral Causes.

By Phrenologists, upon whose system of intellectual philosophy my theory of Insanity is founded, the faculties of the mind are divided into three orders - propensities, sentiments, & the reflecting faculties - the first class attached to organs situated in the base of the brain, the second occupying the vertex, & the third that part situated anteriorly, or in the forehead. The organs which afford exercise to the propensities of our nature are said to be larger & composed of fibrils coarser & stronger than those of the sentiments, or faculties of reflection. Upon this superiority of organization may be explained the paramount energy & influence of our passions & emotions. The texture of the reflecting organs being more delicate & refined, the processes of reflection which they induce are more subtile & elevated but at the same time less powerful & energetic. Thus when attacked by disease those which in a healthy state enjoy a preponderance of power will give

Character

haracter to the mental affection;- just as the
ost powerful muscles of the body draw it in their
nction when attacked by convulsions.
In the ordinary healthy operations of mind there
ists an equable balance betwen every faculty- a
ist & imperceptible state of commotion & activity-
he reflecting faculties indirectly controling the
rations of those of feeling & propensity- but when
e organ gains the ascendency, the proper balance is
estroyed, the quiet operation is disturbed & irregularity
disease are the result.
After having seen the comparative strength of organ-
ation in the material coadjutors of the mental fac-
ties,- the vigour of those belonging to passion & e-
otion- the delicacy of those which cooperate with
udgment & reflection- we shall find no difficulty
falling upon those which are most frequently
oductive of mental alienation- The circum-
tance, too, of the passions being but indirectly
der the control & governance of reason & the
ill, adds to their facility of inordinate excitation.
n object presented to the mind fitted to elicit
assion or feeling will be productive of the event-
spite of the remonstrance of our wishes or our
dgment. Thus the bravest warrior experiences
me misgivings of courage- some little fear- when
aced in the midst of battle & of danger- the ap-
arance of Helena upon the walls of Troy excit-
-ted emotions

of love in the breast of every Grecian Sage
id warrior though by her perfidy it was they were
uffering the privations of war — and Cyrus, distrust-
g the power of his philosophy, his reason, & his
onour, refused to see the beautiful captive lest her
arms should make him err.

This course of <u>a priori</u> reasoning will be found
upported by observation & experience — A mad
athematician or astronomer upon the subjects of
is pursuits, would be considered a prodigy — The
centive to abstract study involves none of those
assions — enlists none of those feelings which are
t to run into morbid excess. And in addition,
s education or training of which the reflecting
ans are susceptible would give them an
scendency over the mind, such as could be pro-
ective of Insanity. They may be attended by
hers of superior power — they may invite to the
articipation of their excitement those which in
eir inordinate excitation endanger the sound-
ss of mind. The Mathematician in his dreams of
rfection, while applying his science to purposes
racticable only in his ardent imagination, may
ing down upon himself the lunacy of Vanity. As-
nomy, the most sublime as well beautiful of sci-
ces, may excite in the minds of its votaries such hopes
utility — ambition of ruling the elements of heaven
destinies of men, as will dethrone reason — Of

f this excess or ardour of imagination we have a
re & very interesting example in the fictitious As-
nomer of Rasselas - a character which Dr John-
n's own disordered imagination enabled him to draw
ith a hand of lamentable accuracy - It was not
is close & protracted application to the study & obser-
ation of the heavenly bodies - but the secret delu-
ion which, in the midst of his meditations, found
way into his belief, that cozened him of his reason -
ad not the pleasing thought of his omnipotence, - the
elief that he was the all-wise agent of Providence,
ppointed to bestow the blessings of equal rain &
unshine upon every quarter of the Globe, crept
to his fancy, the intenseness of his application
uld have made him wiser while it left him in
e full possession of every faculty of his mind -
Poets who deal entirely in fiction - & dream out their
istence in scenes of ideal happiness & perfection,
e apt, when the pleasing spell is dissolved by
ality, to become fantastical melancholy or in-
ane - This fact is facetiously explained by Dr
eattie upon the principle that a certain de-
e of "rabies" or 'furor mentis' is a necessary in-
dient in the composition of a Poet, & which
owing to excess, runs into mania - Collins &
mart, who were wholly insane - & Cowper Johnson
Swift, who all their lives were tormented by fear
d forebodings of a similar unhappy fate, fur-
nish

furnish melancholy examples of of this truth—
Orators, Priests, politicians, warriors, divines, & all
such as pursue professions calculated to call forth
the violent feelings—passions, or enthusiasms, are
eminently subject to alienations of mind. Revo-
lutions and all great political events, involving the
dearest interests of nations & of men, exciting
in the angry passions of the human breast,
nurturing ambition, hatred, revenge, are prolific
sources of Insanity. But of all the fac-
ulties of the human mind, love is the passion
whose inordinate activity leads oftenest to
disease of the mind. Pinel remarks that
of 113 patients in the Bicetre Hospital of Paris
44 were from Love, leaving but 69 to all the
disappointments, passions, & distresses, occasioned by
the French Revolution. Dr Rush gives a comparative
view of causes which confined the patients to the Lu-
natic asylum in Philadelphia in 1792. Of the
victims of this disorder 7 were from Love.
The organ of Love may be considered the founda-
tion of every portion of the mind, commanding
the most extensive range of sympathies, call-
ing into action almost every organ. Arriving at
maturity at that period of life when all the
passions & emotions are in full prime, — when the
buoyancy of feeling is at its height, & when the
mind is most susceptible of irregular impressions,

disappointment is easily productive of madness
as the character of the mind - its energy its disposition &c - depends upon the form of the head,
has been inquired whether this can ever influence Mania. I can see no reason why an illy
formed head might not give the same predisposition to Mania that a contracted Chest does
Consumption, or a cranium uncommonly large to
Hydrocephalus - An unusually small & misshapen head is uniformly accompanied by imbecility of mind - And since this is the case with
small ones, I can find nothing to prevent the conclusion, that, one of defective, will be accompanied by a mind defective in its character.
Thus, if the organ of Ambition or Love be disproportionably developed, & the brain receive the shock of
cause productive of Insanity, it will most probably manifest itself in the excessive action of these
organs. This is nothing more than a more extended view of the irregular Cerebral excitement of Cullen which is defined by him to constitute the
proximate Cause of intellectual disorders.
The heads of such persons as are deranged from
inordinate activity of any one faculty are
and fully developed in the region corresponding to
seat of the faculty. The Cerebellum of the Skull
a man in the possession of Dr Gall, who imagined
had six wives, is unusually large -

the organ of Philoprogenitiveness in the Skull
of a woman deranged upon the subject of her Chil-
ren - imagining herself pregnant with five - belong-
g to the same gentleman, is boldly developed -
n those females who are so unfortunate as to suffer
assion to overcome the delicacy & virtue of their na-
re, are found to have heads full at the base - A
se of this kind fell under my own observation in
e spring of 1824. When I saw her, she was in-
ne, hallucinated with the idea of some being
stinately suing for favors which, without the sac-
ifice of her virtue, she could not grant. The impu-
ities of her nature, however, finally proved
strong; she yielded to the importunate calls
f passion & was destroyed -

Seat & Pathology -

To give, here, a complete enumeration of the Symp-
ms of the various forms of Insanity, would be a useless
penditure of time. Every aberration of the mind
om its natural healthy state is more or less of an
lienation - In one individual the degree of
sanity is so slight as scarcely to be perceiv-
d; in another when the cause is more pow-
rful, & the energies of the brain weaker, it ap-
roaches to Mania - in a third its character is
riefly fantastic & gay - while in a fourth
assumes a gloominess & horror which nothing
n dispel; owing entirely in each to the Sus-
ceptibility

⊛ Dr Pitts, in the Medical Recorder

the brain to disease, or to the organ in which
e disease is situated. Thus we have the infinite va
ety of Melancholy, Mania, Pustimania, Lypemania &c.

Various have been the theories of pathologists as
the seat of Mental disorders. By Hippocrates the
at & proximate cause was supposed to exist in the
isordered condition of the Liver. The Splen is men
ned by other writers as the viscus primarily in-
lved in Mental disorders. Dr Prost locates the dis-
se in the Intestines, founding his opinion
on the fact of their being observed inflam-
d in cases of Madness which have had a fatal
rmination. A disordered state of the blood vessels
the brain is supposed by Rush & Armstrong to
ve rise to this disease. While by a writer in one
the Journals of the day (?) with much less sem
blance of truth, it is located in the Mind itself.
Diseases of the liver, & in fact of the whole range
the Chylopoietic viscera are apt, secondarily,
affect the brain, & through its medium the mind.
ut this is by no means conclusive of the proxi-
ate cause having its seat & existence in these
rts. Head ache is often occasioned by indigestion
foulness of Stomach; affections of the liver oc-
sion a pain in the left shoulder, Angina
ctoris is attended by acute pain in the inner
ide of the arm, Nausea & vomiting are often the
nsequence of affections of the Kidneys or
Uterus.

But these phenomena do not declare that one
isorder is primarily seated in the Stomach from
e nausea & vomiting, that another from the Eye
ing thro', has its origin in the Shoulder; but
only shew the prevalence of that universal
inciple of the animal economy - Sympathy.
e brain being the sole & exclusive organ of the
ind - the only one of itself indispensable to the
anifestation of consciousness, feeling, thought,
o disease of the body, no disarray of its healthy
nctions, will be productive of mental disorder,
ntil the brain itself is brought into morbid
onsent. Hence appears the folly of locating the
ximate cause of insanity in any of the abdom
al or thoracic viscera; - parts which merely
operate with the general whole to sustain
e locos & powers of the System, & are only secon
rily instrumental in thought -

But of any theory yet mentioned that which
ppears to me to involve the greatest absurdity -
e most false pathology, is the one which ly-
gs to place the disease in mind itself - Mind,
the opinion of the author, is immaterial &
mortal - unsusceptible of any change, revo-
tion, or decay - Disease is an aberration from
alth - a change of action from that which is Reg-
ar & salutary, to that which is morbid; but as
ange is predicable of that only which has parts,

belief of its violability by disease presupposes its
eteriality. But consciousness declares mind to be
unit- the same essentially in the infant just be-
nning to think, & in the old man bending under
pressure of years- possessed of the same attributes &
elings, without increment, or addition of parts in
long lapse of time. Consciousness could not be
is kind & faithful monitor, reminding us that
-are the same thinking & accountable being in
various stages of our life, were the mind possess-
of a number of parts & those subject to the laws
mutation & decay in common with other matter
he mind thus constituted could not present a
ngle consciousness; but every faculty would be
dowed with a consciousness of itself, and thus,
stead of one, uttering always to the same beings as
& the same, we should have a variety of conscious-
ss- Neither could the mind connect the know-
ge of the past with its present feelings and
tions, for each particle of the mind possessing
knowledge of its own existence & attributes, could
t, when it had served its being, transfer to its
ccessor its feelings & its knowledge- Thus the
ind instead of being the reflecting & anticipa-
g principle which we now see it, would present
appearance of isolation, possessed only of a
w of the present, unconnected with the past
r the future-

e most acute philosopher has never yet been able
isfactorily to explain the phenomena of mind upon
y known properties of matter - And because in its
ent imperfect state the mind is incapable of acting
thout the cooperation of matter, he acts very unphilo-
hically who infers that it is the attribute of matter.
its present condition matter is the organ whereby
mind holds intercourse with the external world,
t is essentially no more necessary to its existence
n is the instrument to that of, the Musician who plays
n it.

Every cause, therefore, productive of a disorder
the mind effects, either primarily or indirectly,
ne physical change in the brain - Nothing
ort of this can reach or operate upon the mind -
hat this change is before it has extended far, the
curacy of our anatomical observations has never
n able to discover: In other organs it would prob-
bly be denominated a disease of function; but
viously to the accession of any disease a
ange must first be wrought in the organiza
n of the part - In every part of the body disease
st appears in the life of the part - in the ner-
s System, effecting there some change - weakness
disarray - upon which supervene the sympto-
s of disorders in every other texture -

Treatment

We come now to a part of our subject to which all
have written is a mere prelude - the introduction.
he character of the disease has been delineated, its
ture, so far as they are accessible by signs or
mptoms, pointed out, the impressions created
the ravages of the disease clearly laid down -
now remains only to fulfil those indications
far as is within the power of Therapeutics - which
researches of the pathologist have thrown upon
subject. Without what is to come all that
s gone before would be negatory & useless -
his is the Cynosure towards which all our wishes
aspirations & efforts point - though in the
tainment of it, we have much dark un-
-clden space to travel over -
nless it appears in the sequel that all the preceding
hysiology is susceptible of a practical applica-
n - fit to lead the way to the proper philosophi-
l explanation of mental diseases - their cure
their alleviation, it will be justly rejected as
pothetical & speculative - When writing on a
bject of such moment as the present, &
mpted with a proper sense of the dread
sponsibility which rests upon Medical
n, I wish to rid myself of all idle theori-
ing - More than the health of the body - more than
enjoyment of mere sensual pleasures

pend upon the judicious conduct of the
hysician, when treading - whether literarily or
actically in this walk of the Profession -
The cure of mental disorders will depend, of
rse, upon the nature of the exciting cause - And
this as in all other departments of nature the
law - "causa sublata tollitur effectus" is strictly
pplicable - That alteration in the healthy struc
e of the brain productive of disease must be
moved, & the manifestations of mind will be
trong, clear, & unclouded - If the alienation of
ind depend upon any malconformation of the
ain, or upon disorganization, the effect of me-
anical lesion, we shall not err, if, in the
resent state of Medical knowledge or, per-
ps, any degree of perfection of which it is
susceptible, we pronounce it irremediable -
is only over derangements so slight as to mani-
t themselves only in function, that medicine
tends its remedial influence - That disorder
ich seriously implicates structure is beyond
, pale of our art - The Cretins of Switzerland
ose idiocy depends upon imperfect organi-
tion are incapable of restoration to sanity -
When the disease depends upon morbid irrita-
g matter in the alimentary canal, it is
moved with the dislodgement of the irrita-
ing cause -

When the result of protracted indigestion,
cause extremely productive of a sourness of spir-
& despondency of mind, & often of the milder grades
Insanity, the whole course of remedies for the
moval of this disorder are put in requisition- If
sympathetic disease of the brain have not become
tablished, when the remote cause is removed the
ind will return to its former state of health-
But if the disease of the stomach have existed
long as by simpathy to effect a serious
ange in the structure of the brain, other
medies than those used in Dyspepsia will
required-
From what has been said the great necessity of
tending early to mental disorders will appear evi-
nt- of meeting them with a giants arm at the
ry onset- for when once an organic change of
agnitude is effected, all chance for restora-
n is gone- And such is the delicacy of texture
the cerebral mass that, this disorganization
oner occurs in it than any other part of the
stem- The brain is farther removed from the
mediate seat of the operation of medicines,
d it is therefore requisite that those means
ich are to act indirectly, & consequently with
s force, should have a timeous application-
ut notwithstanding a knowledge of the nature
treatment of these diseases, is in the possession of the
Profession

often put into early application, while the
ange wrought in the part by the first shock
the cause is beyond the reach of our art. Pathology, in the light which she has shed upon the
ture of the disorder, has been much more be-
ficent than Therapeutics in the means to re-
ve it.

Venesection in mania, when it is attended as it
ually is, by signs of high excitement, is the
ost anchor of hope. The turgid state of the
oodvessels of the brain must thus be removed.
Blisters & Mercury come in with next, as stim-
ants, to excite the debilitated bloodvessels to recov
ir tone & lumen. Opium when it depends
on excessive irritability, or upon relaxation
the vascular system of the brain may be
ful. The cold shot bath have both been
ghly recommended in some stages of this
ase. The cold bath must act upon the
me principle as depletory remedies, ab-
acting from the force of the circulation.
e warm bath, when used moderately, acts
a gentle excitor of the system and is ap-
icable only to the disease in a low grade.
nties by some writers have been recommended
Wilson Yandell, of Tennessee, as early as the
r 1801 was in the habit of using this remedy
ccessfully in mania a potu.

But in Insanity, as in all other diseases, the
hief skill & judgment consists in a judicious and
e-timed application of the various remedies to the
fferent stages of the disease. What which in simple
ancholy or slight aberration of intellect would
attended by success, would, in furious mania
ingatory & inefficient. And on the other hand,
would be a useless expenditure of professional
rgy, & an ingenious punishment of the pa-
nt, to treat a slight case of Monomania with
the severity of a total derangement.

In the Moral treatment of Maniacs all
ities are now agreed that they should be governed
th mildness & lenity, where harsh treatment is
dispensable. Corporeal punishment is in very
w cases, admissible. Persuasion is the principle
which to govern them, & the proper excitation of
ontervailing passions & emotions. It is needless
set judgment, or one of the reflecting faculties,
opposition to a raging passion for the purpose
taming it. The voice of reason is drowned &
t in the confusion of impetuous feelings. To
tempt to persuade a lover of the folly of his
ling, would be vain, & if we cure him of his de-
sion it must be by calling into play a more
werful counteravailing passion. Passion must
ways be set in opposition to passion, if we wish to restore
faculties of the mind to a true healthy equilibrium.

I have thus, with some labour, brought my
bject to a close. The symptoms of the disease have
n intentionally left out, since to have embraced
, of every species of Insanity, would have swelled my
rtation far beyond the proper size. The symp-
s, too, being the e contra of intellectual health,
re can be no difficulty of arriving at a know-
lge of the disease. The causes of the disease
ve been fully enumerated, & their modus ope-
ndi explained. The pathology of the disease
been fully gone into, &, I hope, some light thrown
r this intricate branch of medical Sciences.
It now, only remains for me ~~only~~ to bespeak the in-
lgence of that Preceptor to whose judgment this
rtation may be referred. Longer, considerably,
n the majority of such productions, he will natu-
lly expect to find in it more defects. The time which
ve allowed myself, for its arrangement,
cludes the possibility of any finish or elegance
composition. To give a lucid view of the philoso-
of the disease, to furnish all the important matter
ich relates to its character, has been the princi-
ple I have kept constantly in view. And while
wishes & cautions were directed solely to this point,
is to be expected that many literary inaccuracies
unperfections should escape my observation.
Trusting to that liberality & indulgence which
ways accompany great minds for an extenuation
of

the many defects which throughout mark this
tation, it is submitted in confidence to their
did consideration by their obliged

Pupil & sincere friend.

Lunsford P. Yandell

Dissertatio Inauguralis

De

Rheumatismo

Quam

Annuente Summo Numine,
Viro admodum Reverendo
Jacobo Kemp D. D. Præfecto,
Cæterisque Gubernatoribus
Academiæ Terræ Mariæ,
Præsertim Excellentissimæ Facultati
Medicæ
Pro Gradu Medicinæ Doctoris
Examini
Subjicit
Robertus H. Nelson
Virginiensis
Civitatum Americæ Foederatarum
Civis
Anno Domini
1825.

Rheumatismus.

Morbi Definitio.

Rheumatismus, qui duas in species, acutam et Diuturnam dividitur, Morbus acerbus, aliqua caterua, et causa plerumque manifesta exoriens, atque in classe Pyrexiæ, et ordine, Phlegmasiæ, a Cullenio ponitur.

Rheumatismus Acutus Diathesi inflammatoria Morbus, Musculos, Ligamenta, et Artus affectans, artus majores ut cervicis et lumborum Vertebras, Genua, Humeros et Cubitos, et interdum Carpos et Tarsos, atque pedum manuum aut pedum digitos. Etsi interdum articulo uno finitus, corporis partis multas tempore eodem, hic morbus sæpe invadit; quum gradu frigido fere incipit, qui pulsu frequenti, pleno, et tenso, statim succedit. Dolor circa articulos, acerbus et lancinans, qui musculorum cursum sequitur, uno ab artu ad alium removet, et motu vehementer ingravescit. Postquam dolor aliquandiu permansit, artus fere tumidi, et tactui magis acerbi fiunt, atque caloris et rubroris accessus magno comitantur. Licanquam pulsus vulgo firmus et plenus, tamen interdum demissus et depressus. Si quis sudor intersit, paucis in partibus non per corpus totum apparet. Urina fere rubra et postquam aliquot dies morbus permansit, fæces laterum pulveri similes deponit. Nulla intestinorum obstructio, nisi sit aliqua disorganizatio. Hepatica, aut intestina ex cibi usu, Diathesim inflammatoriam minuentis, obstipata fiunt. Sanguis detracta, vestem coriaceam exhibit. Diathesis febrilis vespere multum augetur, quod nocti dolorem acerbiorem facit.

Quum afficiuntur ligamenta et tendines sola, pulsus, parvus et tensus. Per Metastasim, Cor, Diaphragma, Hepar, Intestina, atque organa alia, morbi sedes fiunt. Si Cor sit morbo affectum, respiratio difficilis palpitatio et singultus graves, atque pulsus abnormis et depressus, superveniunt. Sape lacerto uno, maxime dextro, pulsus nullus. Sunt etiam fastidia, inquietudo, et cordis tremor. Paralysis, Rheumatismum interdum consequitur, quæ generum duorum; una ex musculorum inflammatione, alia ex fasciarum condensatione, et nervorum compressione consectaria oriens, quibus partis torpor efficitur. Hoc inflammationis genus omni ab aliis discrepans, suppuratione raro desinit.

Rheumatismus Diuturnus nullo febris indicio fere non comitatus; si intersit febris, nullius momenti, et pene imperceptus. Artu laborante, fere frigor, usus defectus, arcditas, et torpor, sudor frigido et glutinoso atque dolore acuto comitantibus, qui, colo variante et calore abstracto, magnopere ingravescit, et corpus totum vehementer enervatum. Morbi hac forma, sine mutatione ulla sæpe diu restat, atque non raro, per vitam, comes gravis.

Morbi Historia

Rheumatismus in calidis coli regionibus, rarus. Vere et Autumno saepius occurrit, quia illis tempestatibus, transitionibus variis Calum subjicitur. Aer humidus et frigidus, vicissitudinibus subitis ex humido ad aridum, excitando hujusce naturae morbum tempus opportunissimum; sed si morbum excitare coli temperies talis, quovis anni tempore, appareat.

Rheumatismus Acutus, omnis aetatis sexus et constitutionis morbus, tamen a pubertate ad annum tricessimum et quintum, frequentior. Homines corporis validi et constitutionis sanguineae, tam ii, qui calo frigido exponuntur, atque multum sub dio versant, Rheumatismo multo saepius laborant, quam qui constitutione et vita a se differunt. Forma Diuturna in hominibus, magis aetate provectis, frequentior. Hi hoc morbo laborantes, omni axis transitione, artuum dolori, rigori et inflationi, obnoxii. Morbus nonnunquam tam acerbus, artus luxationem ex parte facere. Plurimis aegrotis, anni tempore calidissimo, dolor minus acerbus, et minoris momenti, inflatio; tamen sunt exempla, quibus e calido ad frigidum transitio omnis aegroto auxilium attulit.

Diagnosis

Rheumatismi distinctio ab Arthritide aliisque corporis humani morbis medendi rationem dissimilem postulantibus, Medico maximi momenti. Rheumatismus et Arthritis interdum tam complicati et misti, morbum praecipuum difficulter dignosci, tamen natura tam diversa, investigationem attentam medendi methodum satis accurate ostendere.

Rheumatismus ex aliqua causa manifesta plerumque oritur atque stomachi aut intestinorum morbo, nec anteceditur, nec comitatur, dum contra, Arthritis non aliqua tali causa manifesta oritur, et ejus impetus, corporis languore et lassitudine fere antecedituar, atque stomachi aegroti indiciis manifestis comitatur, nimirum ventris inflatione, et stomachi eructatae. Rheumatismus juvenum, validorum, et strenuorum, morbus; Arthritis, aetate provectorum. Rheumatismus, artus majores, Arthritis, inferiores aggreditur. Febris Rheumatismum et Arthritidem comitans, remissionibus et accessionibus subjicitur, qua Rheumatismo certis, Arthritide temporibus incertis, redeunt. Rheumatismus non hereditarius, Arthritis, hereditate naturali a patre ad filium frequenter traditur, et victu luxurioso, potu

nimio, atque vita ignava induci potest. quæ Rheumatismum
nunquam procreant. Rheumatismus Acutus semper inflam=
matorius: Arthritis aut cum, vel sine febre intersit
infirmitate niti videns. Morbis Hepaticis dignoscatur
intestinorum conditionæ abnormi, Jecoris indurationæ et
amplificationæ, aliisque indiciis comitantibus.
Rheumatismus pectoris musculorum a Pneumonia dignoscatur,
tussi acerba, respirandi difficultate et pulmonum excreationæ
hunc morbum posteriorem consequentibus. Subinde dignoscendi
difficultas inter Rheumatismum et dolorem ex Veneræ Luis
reliquiis atque Scorbuto orientem. In ægroti historiam, mores, et
consuetudinem, investigatio attenta sententiam accuratam
formando, medicum juvabit.

Causæ Prædisponentes.

Frigus corpori magnopere calefacto, adhibitum, aut ad corporis partem unam frigoris applicatis, quum reliqua supra temperiem consuetam, sudoris repressio subita, sub dio expositis longa, vestimentorum humidorum impositis, lodicibus humidis decubitus, vestimentorum densorum variis permutatis, atque Vere et Autumno aeris transitiones subitæ, Rheumatismo Acuto prædisponunt.

Rheumatismus Diuturnus ullis causarum supra nominatis sociatur, et etiam artuum distortionibus et luxationibus, atque venæsectionis aliorumque febrim minuentium neglectu, forma cuta, enim errore certe laborat Magnus Cullenius, cum dicit liberum Venæsectionis usum, morbum disponere formam diuturnam assumere.

Causa Proxima

Rheumatismi causa proxima, eadem sicut causa proxima inflammationis universæ.

Prognosis

Si utantur rationes prompta et efficaces, morbo incunte, diu raro manet, aut diuturnus fit. Quia corporis pars nulla vita necessaria hoc morbo fere laborat, raro fatalis; sed si negligerentur remedia propria, atque morbus cursum caperet, corporis alicujus partis Paralysem efficiat, aut diuturnus fiat, et omni aris transitione redeuns, vitam omnem variis accessionis gradibus remanebit.

Medendi Methodus.

Formam hujusce morbi acutam pugnando, modis omnibus Diathesim inflammatoriam minuentibus utemur. Si actio inflammatoria magna, sanguinem detrahere non cessemus, dum pulsus mollior et lentior factus, corporis calor, minor, atque cutis mollis. Venaesectio topica etsi commodo usa postquam inflammatio generalis est reducta, morbo ineuntz, duntaxat. Metastasim creat. Diathesim inflammatoriam comminuendo et morbum curtando, Cathartica utilia, maxime Murias Hydrargyri mitis, et Sales Neutrales. Remedium efficacissimum, proxime Venaesectionem, Diaphoretica. Quum calor corporis magna, frigidissima, optima, scilicet, Haustus salini et Nitrum, aut solum, aut Antimonio conjunctum. Pulvis Ipecacuanhae compositus, Diaphoreticum optimum. Cum sudor semel excitatur aliquot horas mediocriter protraheretur, opus desideratum perficere.

Diaphoretica alia minus efficacia, forma acuta aliquanto
domita, adhibeantur. Capsici hujusce, Mezereum, Guiacum,
Sarsaparilla, et Eupatorium. Opium portionibus magnis
dolorem lenire adhibitum, sed nisi medicamento aliquo
sudorem excitante, aut dulci Mercurio conjunctum,
noxium videtur. Diuturna in forma, Stimuli interni et
externi, momenti magni medicamenta. Hydrargyri et
Antimonii tartarizati Unguenta, Vesicatoria Cantharidum,
Sinapios Cataplasmata, Ammoniæ Solutio, Terebinthinæ
Oleum, Unguentum Stramonii foliis aut floribus factum,
Capsici Tinctura, Moxa, et Cauterium, quibus balnea tepida
et Sulphurea adderentur, bona sunt applicationes externæ.
Xanthoxili Fraxinei, Phytolaccæ, Guiaci, Stramonii,
Colchici Autumnalis, et Capsici Tincturæ, Acida Fopilia
Sinapis, Raphanus, Carbonas Ammoniæ, Terebinthinæ oleum,
Mezerei Decoctum, pinii foliorum et fragmentorum, et Lauri
Sassafræ, et Ilicis Aquifolia corticis Infusa, formâ diuturnâ,
interdum commode adhibeantur. Quum medicamenta alia

fallunt Hydrargyri Cursus mitis salutem frequenter reddet. Reditum hujus morbi injuccendi Canificium Canimum, aut ad regionem sub sole ardentiore positam remigratio antevertet. Si postquam medicamenta predicta caperta, morbus maneret, usus annuus Balneorum fontium tepidarum & calidarum, quæ, in Virginia, aliisque civitatum Foederatarum inveniuntur aut morbum removit aut, Symptomata ejus sic attenuavit, ut Vitæ Vesperam jucundiorem efficeret.

Finis

An

Inaugural Dissertation

on the

Non contagious Nature

of

Yellow Fever

and

Experiments on Black Vomit, which is Ejected in the last Stage of that disease—

By

G. G. Longen

of

Maryland—

An

Inaugural Dissertation

For

The Degree

Of

Doctor of Medicine

Submitted to the Examination

Of

The Revd Bishop Kemp L. L. D. P. Provost

The

Trustees and Medical Faculty

Of

The University of Maryland

on the

Fourth Day of April

1825

To James Tongue M. D.

Dear Father

Please to accept this dissertation
as a small but sincere tribute of
gratitude and filial Affection
from your
dutiful Son

G. G. Tongue

To
John B Davidge A, M M D,
Professor of Anatomy
in the
University of Maryland
Much Respected
Sir

It is a source of satisfaction to me thus publickly to express the high esteem entertained for you, in whome an concentrated professional eminence, distinguished talents, and uncommon ability to teach —

I am impressed with a lively sense of gratitude and affection by Numerous testimonies I have received from you in the double capacity of preceptor and friend —

I pray you may enjoy health adequate to the continuance of those labours in the field of science, and the chair you so preminently fulfil, which have been so productive of benefit to society — and honour to yourself —

Your obliged
friend and Pupil
Gideon G Tonyn

To John Quincy Adams

President of the United States

Respected Sir

I take the liberty to dedecate the following pages to you, they are but a feather compared to the great mass of facts and other information, that might be adduced to prove that the Yellow Fever is of domestic origin, and not contagious under any circumstances—

To the Statesmen in a political point of view it is an important enquiry, and one of great Moment, by relieving our Merchants of them, Useless Quarantine laws which have so long and at different times shackled the commerce of our country by instituting oppressive delays and oppressive embarrisments; independant of the suspensions of intercourse between our large Cities—

Moreover the enemy of the Contagious Nature of Yellow Fever has produced Vexations, precautions to guard against imaginary dangers at the neglect of the only proper means of ameliorating the condition and preventing

the recurrence of this fatal pestilence to the inhabitants of our large Cities—

It is the peculiar character of all contagious diseases to be propagated in all countries, climates and seasons, (they are equally, if not more contagious, in the coldest, as well as the hottest weather)— Fortunately for us indeed— that it is not a contagious disease—

If it were our fine and beautifull country would have long since been depopulated—

With sentiments
of Sincere
Respect
Gideon G Tompkins

Observations on Yellow Fever

The great author of the universe ~~has given~~ has given to our country, an extent to feel the influence of four Zones — embraced in such an extended length of territory from north to South, and from the Atlantic, to the pacific ocean, east ~~and~~ to west — it is obvious that we must be liable to all diseases, peculiar to such an extent of ~~territory~~ country, and diversity of climate —

In the Middle and Southern States, we find on their atlantic borders — I had almost said innumerable, bays, creeks, inlets and rivers of an uncommon magnitude and extent — And in the western states we find lakes and rivers ~~sup~~ superior in size to any known in other quarters of the world — with few exceptions —

On the margin of these great water courses we find the face of the country, mostly low, abounding with extensive marshes lagoons, ponds and small reservoirs of stagnant water — the soil on the water courses rich and often alluvial the rise and fall of the water different in different places.

Thus yielding, in hot climates and hot seasons an immence quantity of putrid

vegitable effluvia - Marsh Miasmata or if you
please poisonous air -

This is the fruitfull source of all our au-
tumnal diseases, It is the great Matrix of all
our Intermittent, remittent, Bilious Malignant
Yellow fever -

"Without this Matrix of putrid vegitable
Matter, there can no more be a bilious, or
Yellow fever generated amongst us, than there
can be Vegetation without earth, water, or
air "*

In our large cities this superabundant ~~au-~~
~~tum~~ accumulation of putrid exhalation com-
bined with an artificial heat from the
reflection of the sun on the walls and pave-
ment and confined air, in narrow and
dirty streets is the cause of the yellow Fever.

Our country abounding with such an
immense sours that yields this putrid Vegita-
ble exhalations, combined with a hot sun
together with the great abuse of ardent liquors
produces those numerous febrile, bilious and
other diseases, which is the great avenue from
life to death, of the inhabitants of the United
States, and the West Indea Islands -

* See Rushes works vol 2

The

The yellow fever is a disease peculiar to and belongs to the United States, indigenous to it and all other hot climats abounding with putrid Vegitable exhalations—

The diseases of the Marsh family if they may be so called produced by these putrid exhalations, Marsh Miasmata, poisonous air, or by whatever name you please to call it, put on a mortality and an uncommon degree of malignity when accompanied by an inflammatory constitution of the atmosphere—

Medical writers in Europe for more than a century part constantly speak of an inflammatory disposition of the atmosphere and of its influence in imparting a preternatural degree of malignity to fevers arising from putrid exhalations—

The celebrated Hippocrates who wrote about 2285 years ago speaks of this inflammatory constitution of the air—Dr Sydenham also mentions it over and over again, the Baron Van Swetin, Dr Mosely, and many other celebrated writers—

Lempriere a British Military surgeon of Jamaca ascribes the uncommon mortality of the yellow fever in the West Indies to this

inflammatory constitution of the Atmosphere

Dr Rush informs us that such an inflammatory constitution has existed in the United States, since the year 1791 this disposition in the atmosphere to produce diseases of a highly inflammatory diathesis is sometimes local, but it sometimes pervades whole country-*

"The records of Medicine prove that this inflammatory state of the Atmosphere has continued from one to fifty years in different countries+"

Dr Sims has given a long and interesting account of these inflammatory constitutions of the atmosphere from the year 1590 to 1782 in the first volume of the Manchester Memoirs, from which it appears that they were sometimes general over Europe and at other times confined to particular countries-

"The pestilential constitution of the air in the United States, began in 1791- This I infer from the yellow fever making its appearance that year in New York- It prevailed in Charleston, in 1792" In Philadelphia in 1793" And it has been epidemick in one or more of

~~* See Blackstone's commentaries~~

+ See Dr Rush address to the citizens of Philadelphia

of the cities and country towns every year since -

"We observe the effects of changes in the qualities of the atmosphere not only upon diseases but upon animal and vegetable life. Insects of different kinds have lately appeared and multiplied in an unusual manner, the the fruits of the earth have ripened, and decayed in many instances sooner than in common years - These facts have been noticed by farmers in every part of the United States. It might be asked why was not the yellow fever imported before the year 1791. It is seldom absent from the West India Islands - The intercourse between our Cities and them Islands has been extensive and constant particularly in the wars between 1756 and 1763."*

It is a well known fact to most physicians that diseases not only vary from changes in the atmosphere but they also change from the progress of Agriculture, civilization mode of living &c &c

Dr Rush says the influence of the atmosphere has been evinced in the changes our autumnal fevers has undergone since the

* In Dr. Rush address to the citizens of Philadelphia

the year 1780. From that time until 1798 it appeared in the form of a mild Intermittent or slow nervous fever - after the year 1798 it appeared chiefly in the form of mild bilious remittents, since the year 1792 the mild autumnal bilious fever have nearly disappeared, and violent inflammatory remitting and bilious Malignant fevers have taken their place

Is the Yellow Fever a Contagious Disease

The facts and observations that might be written on this subject would fill volumes—

The nature of an inaugural deputation can but briefly touch on the subject—

It is remarkable that no nation admits the plague or the Venereal disease, to be of domestic origin* from time immemorial— It has been chased from one nation to another, in search of a birth place— and the origin has been ascribed to the planets by some writers

Credulity and ignorance, combined with accidental circumstances is a source of error in the origin of diseases—

Thus Lues Venerea, which has existed time immemorial, happned to rage with great violence in Spain, about the time America was discovered, its origin was chased to that country—

A pestilential fever which accidentally occured after the introduction of the potatoe into France caused an edict against the cultivation and use of that wholsome Vegitable by the french

* See Dr Tongues dissertation on the origin of the Lues venerea—

Equally as
count — contemptable and absurd is the belief of the importation of the Yellow fever of our country —

The arrival of a Vessel from the West-Indies in one of our filthy docks in the months of august or September, and the sickness and death of a Sailor or of a few persons in the filthy neighbourhood of the Vessel caused by putrid exhalations has been enormously connected together as cause and effect

To none of the European countries has the Yellow fever ever been communicated by the many thousands of sick and convalescent Sailors, and soldiers, that have arrived in them both in peace and war from every part of the West India Islands *

Their quarantine laws are intended for Vessels coming from the Levant and other sources of the plague —

But it is worthey of remark that in consequence of the common belief of our importing the Yellow fever from the West-Indies — in 1793 that the Court of London imposed a quarantine on Vessels going from Philadelphia to England — in 1793 — if it could be carried from Philadelphia to England why not carried from

* See Rushis adup

the

the West Indies to England - error is never -
consistant with itself -

The quarantine laws of our different Cities
is an acknowledgement of the belief in the
contagious Nature of the Yellow fever and
a belief that it is actually imported from
the West-Indies and also that the infection
can be carried from one City to another by travellers
Vessels &c &c -

This erroneous belief has caused a suspen-
sion of intercourse, of one or more, of our
Cities with each other, during the prevalence
of this disease - to almost the entire loss of
commerce and trade, of those Cities for se-
veral months in the year -

Again the belief in the contagious
Nature of the Yellow fever is attended with
distressing circumstances by the desertion
of the sick by their friends and relations
and necessary attendants -

I have heard of instances shocking
to humanity of persons being suffered
to perish in this country for the want
of necessary attention -

We know or can conceive, how
often and to what extent the strongest

and best ties which exist between Mankind have been broken, by persons acting under the terror of imaginary dangers. Many persons are driven by it to abandon their homes their occupations, and even their nearest and dearest relations and friends in the hour of sickness, and by this direction of the duties of humanity, this denial of assistance, and those consolations, which might have been afforded, without the smallest danger, to render those visitations, incalculably more afflicting and fatal, than they otherwise, would have been —"

"Don R Amesto in his work asserts that the barbarous and antisocial belief of the importation and contagion of the yellow fever, has from its baneful influence in Spain, caused many unfortunate victims to be abandoned, and left to starve in their beds. That others have been shot at the very doors of houses in which they endeavoured to find an asylum; and that many others were carried alive to their graves —"

"Let the zealous who have contributed to this monstrous inhumanity — reflect upon it, and if their intentions, have as I hope been

been good, let them at least maturely examine and reconsider the foundation of their belief before they endeavour again to carry it into action - It neither requires nor even indicates a mediocrity of understanding or learning to adopt the common notion of contagion, and foreign importations in regard to epidemics - Nor does the facility, with which these are propagated afford the smallest presumption in their favour - By much the the greater part of Mankind do not possess either sufficient industry or knowledge for the due examination of a subject so intricate and complicated, nor have they so much the power and habit of close and accurate reasoning, as is necessary to decide respecting it - Every one however can believe, and the belief of contagion, is a ready solution of all difficulties, without the trouble of enquiring and even of thought: And we need not therefore wonder that contagion like witchcraft, should have been universally believed (though as little understood) and as often with as little foundation -"

This ~~foundation~~ erroneous belief too has given rise to serious and in many instances

~~and in many instances~~ ruinous losses to our merchants engaged in commerce by an unreasonable and vexatious quarantine laws of long duration - it has moreover exposed the health and lives of our Mariners, in sickly situations in hot months and unhealthy seasons - and often too when they were within a few miles of their families and friends -

Of the many hundred instances of persons who have taken the yellow fever in town and gone to the country and have died - there is not one solitary instance of the disease being communicated -

* Dr Rush once believed the yellow fever could spread by contagion -

+ He begs forgiveness of the friends of science, and humanity, if the publication of that opinion has had any influence in increasing the misery and mortality attendant upon that disease - Indeed great is the pain he feels, in recollecting that he ever entertained or projected such an opinion, that it will long and perhaps always deprive him of the pleasure, he might otherwise have derived from a review of his attempts

* See Rushes book

+ See Bancroft

to

to fulfill the publick duties of his Station,"

Then we see this great and good man who perhaps had seen more of the Yellow fever than almost any other physician, coming forward and publickly renouncing an error and begging forgiveness - after this honest avowal of an error how much more estimable does he appear in the eyes of all good and learned Men -

Dr Dabridge the present able professor of Anatomy in the University of Maryland he was the first physician in the United States to announce his belief in the non contagious nature of Yellow fever - *

* Le Dr Davidge Physical Sketches -

On Black Vomit

The original opinions respecting black vomit that it was poured out by the liver, or that it was dark or putrid bile - but from more minute examinations, repeated dissections and experiments, it is now satisfactorily ascertained that it is a fluid, Sui Generis, formed exclusively in the stomach, and small intestines. but more frequently confined to the stomach alone -

It is unquestionably a secretion from the inflamed vessels of the stomach - it is a bland tasteless substance, except when bile is discharged occasionaly with it -

The discharge of this substance invariably announces to the Physician, the hopeless state of his patient - In its first appearance it requires to be examined minutely to ascertain its nature - being there only a few small brown-mush particles floating in the fluid contents of the stomach -

As the disease advances the blackey particles get more and more numerous, and of a darker colour - until it becomes as dark and as thick as black coffee grounds - the stomach, (in many cases) discharging almost incessently large

^ but most commonly puking it up ~~in large quan~~

large quantities. The patient sometimes hiccupping or belching it up in large quantities—

In repeated dipections that my Father made on persons who died, with the Yellow Fever—(in the City Hospital of Philadelphia in 1799) he invariably found this black matter in the stomach, and sometimes in the Intestines and the internal coats of the Stomach in some cases were entirely covered with it, and in others it had a dotted colonded or chequered appearance— and one Stomach which he preserved in clear Spirits of Wine— (was remarkable for the regular dotted, or chequered appearance)— after being repeatedly washed the black matter had the appearance as if it was ipsuing from the fine extremities of the blood vessels or internal coat of the Stomach

If the Yellow fever was a contagious disease and the black vomit which is as much a secretion from that disease, as the Venereal, Virus, Small Pox matter, or any other secretion, are from diseases specifically contagious, it would as certainly produce Yellow fever, as any other of the specific contagions, producing, diseases of their own kind—

My Dear Father

I will esteem it a peculiar favour if you will furnish me with the experiments you made on Black Vomit- or any other observations made on the Yellow fever- as you saw a great deal of that disease while you were a pupil of Dr Rush and during the time you were at the City Hospital of Philadelphia, where it was appropriated entirely for the reception of Patients with the Yellow fever

Your affectionate

~~Son & Pupil~~

Son and Pupil

G. G. Longue

My Dear Son

The experiments you request were made on the black Vomit, to satisfy my own mind relative to the contagious, or non contagious nature of the Yellow fever. At that time most Physicians believed the disease to be highly contagious- I do not believe ~~at that time~~ I should have ~~given~~ gone to such lengths with the experiments on black Vomit, if I had not been perfectly assured that the ~~disease~~ Yellow Fever was entirely under the control of Medicine, if suitable remedies were used at the commencement of the disease-

I shall trouble you but with observations of mine- what you have already heard and learnt you ought to know the nature and history of the Yellow fever-

In July 1799 the Yellow fever again made its appearance in Philadelphia, At this time I was a pupil of Dr Rush and in consequence of this disease having proved so fatal in Philadelphia, the year before. ~~that~~ in August 1799 the City was

was nearly depopulated - I offered my services at the City Hospital, to the board of health which I hardly need tell you were very willingly accepted -

Drs Rush and Physick were the attending physicians to the Hospital, to which no patients were sent except those having the yellow fever -

I had an opportunity of seeing the disease in every possible form, it could assume - it is in fact an epitome of ~~almost~~ many diseases with this invariable symptom - a sense of soreness and pain when pressure is made on the precordia - and notwithstanding all the variety of forms, this disease assumes in different patients when it proves fatal it is invariably, accompanied by a discharge of the black Vomit -

I endeavoured repeatedly to save ~~the~~ black vomit, while at the Hospital in vials, and bottles, by having them well corked, with leather or bladder tied over them - but they almost invariably burst, with a loud explosion - with a stench so intolerable, that the rest of the Students and myself, in the Shop

were compelled to leave it for ~~some hours~~ some time —

While at ~~the Hospital~~ I was very desirous to make some experiments on black vomit, but it was almost impossable, to get any from a patient, that had not been taking some kind of Medicine, which might alter the nature of the black vomit * so as to leave doubts as to the true result of the experiments that might be made —

In September the year following I had an

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* Dr Isaac Cathcill of Philadelphia made many experiments on black vomit, by analysing it —

The black vomit, from which these experiments were made was procured by me from patients in the Yellow fever — in the City Hospital of Philadelphia and furnished to Mr Parker one of the board of health and by him presented to Dr Cathcill —

There is no doubt the experiments made by Dr Cathcill, is creditable to him, and made with the greatest accuracy — but I think the black vomit could not be relied on, as the patients from whom this black vomit was procured had all taken more or less medicine, which might

an opportunity, and leisure to make the following experiments.—

Being at this time on a visit to my parents near West River, in Anne Arundel County (the Yellow fever prevailing at this time in Baltimore) I was requested by Dr Henry Hall to visit two patients just from Baltimore—with the Yellow fever— a Capt Gotee, and Mr Randell—

Mr Randell, was in the last stage of the yellow fever, puking up large quantities of black vomit; he had taken no medicine of any kind, and had been some time on the passage by water from Baltimore, to West River. And had taken nothing since he sickened, except cold water—

I concluded I could not have better black vomit to make experiments with, to ascertain the contagious or non contagious nature, of Yellow fever

---

might have altered its nature or given different results, in a chemical analysis— again it is a substance like every other animal secretion that runs speedily into putrifaction. ~~It will be seen hereafter~~—

fever - and to ascertain that fact the following
Experiments were made -

Experiment 1st

In presence of Dr Ball the pure Black Vomit as it was pulled up immediatly from Mr Randell's Stomach was caught in both of my hands and my face was literally rubbed and washed with it as much, and as long as is genually done in cold water —

Experiment 2d

I held my ~~face~~ face almost in contact with a chamber pot nearly filled of black-vomit just pulled up - and tried to inhale the effluvia from it into my lungs by repeated and deep inspirations which was continued for several minutes - I felt no inconvenience from these experiments except the unpleasant association of ideas that would naturally occur -

Experiment 3d

I got my friend Dr Ball to inoculate me with the fleaky particles of black vomit (just pulled up from the Stomach) in three or four different places on each arm; no inflamation or any thing occured worthy of notice —

Experiment 4th

Black vomit immediately from the Stomach was strained through fine muslin, and about a tablespoonfull of the flaeky particles were put into a piece of thin muslin and bound to my nostrils - so that I could inhale the contagious effluvia (if any) into my lungs this application was continued about one hour and so adjusted to the nostrils, that the air should pass through it more or less into my lungs at every inspiration — This application was continued one hour, no inconvenience was felt from this experiment.

Experiment 5th

I applied ~~two~~ a large blisters to each ~~of~~ wrist, and as soon as they drew the sores were washed with black vomit immediately from the Stomach, no uneasiness was felt from this experiment - or irritation produced to the blister —

Experiment 6th

The flaeky particles of black vomit was laid thick on the blisters and bound to them with bandages - so that the poison or contagion (if any) might be absorbed into the System no inflamation or uneasiness, either to the blisters or system was felt from this experiment

Experiment 7th

Fresh black vomit was again repeated on the blisters, and the same Experiments repeated as yesterday, and the same results—

Experiment 8th

About a pint of black vomit was pound down the throat of a small fatted Pig, which I threw was to be killed in a day or two and cooked— of this pig 8 or 10 persons ate— nothing occured worthy of notice, either in the appearance of the health of the Pig or them who eat of it—

Experiment 9th

A quantity of black vomit was mixed with flour— out of which a great many pills were made, of as large size as could conveniently be swallowed—

Experiment 10th

Out of the preceding black vomit pills— (if they may be called so) one was given every 2 hours, to a negro woman labouring under a chronic disease— they had no perceivable effect— A great many of these pills were given to different persons and no effect was ever perceived from them— ~~It has been tried~~

I am happy to observe that Dr Smith has made some experiments on black worms several years since the experiments I made the same results—

It has been mentioned by medical writers that a great mortality often prevails among some domestic animals during yellow fever, or other violent malignant diseases, and it has been supposed that Cats & Dogs die from it -

Experiment 11th

Two Cats were inoculated with black vomit - no inflamation or other perceivable effects appeared to be produced -

Experiment 12th

To the same two Cats a teaspoonful of black vomit was given no effects were produced -

Indipendent of these experiments black vomit was given, to different domestic animals - to Dogs and Fowls - with the same results as in the precedent experiments.

Mr Randell was visited every day until his death and fresh black vomit produced every day - as he was in the last stage of the disease, it was thought unnecessary to give him any medicine - He took nothing but a glass of water occasionally -

From these experiments I infer that the yellow

Yellow fever cannot be communicated by the Black Vomit, and I also infer that it is not a contagious disease, because there is not one solitary instance, that I have ever heard of the disease being communicated from one person to another — in the many hundred May I might have almost said thousands instances of persons, having contracted the disease, by breathing the impure air of Cities - and dying in the country —

In all contagious diseases there is uniformly an effluvia or Secretion that produces the same disease, we see it in Measles, Small Pox, Canine Madness, Lues Venerea, Cow Pox - and jaoil fever &c

We see that Yellow fever cannot be produced either by the effluvia from the patient — or by the Secretion of Black vomit which is a secretion from the Stomach Sui Generis - and I believe is as peculiar to that disease as much as Small Pox Matter is to small pox, or Cow pox Matter is peculiar to the Vaccine disease —

There is an opinion reported by many respectable physicians that they have discovered Black vomit in the Gall bladder —

and in the Duct leading to the Duodenum in considerable quantities as well as in the stomach, and they also spit, their belief that the Liver has some agency in forming this substance —

This I am convinced is an error — In some dissections that I have made I have found this black substance in the Gall Bladder, but on minute examinations and comparing it at the same time with Genuine black Vomit, it is in toto celo different — The black substance from the Gall Bladder tinging linen of Yellow colour, and bitter to the taste — the genuine black Vomit, is tasteless, and imparting no Yellow colour to white paper or linen —

the appearance of two things may be so exactly alike as to deceive ~~in the appearance between artificial and natural substances~~ almost any person, and it is only by experiment and minute examination that the difference is discovered —

I am perfectly agreed in my own mind from what I have seen and read that the Yellow fever is a disease indigenous to one climate and country and that it cannot be communicated by

by contagion in any way - but when it prevails in our towns that the same cause exists to give it to thousands i, e breathing putrid exhalations - or impure air -

If these experiments and observations are of any use to you - I have no objection to their being put in your inaugural dissertation

Your affectionate Father

James Troyer M.D

An

Inaugural Dissertation,

For the Degree of

Doctor of Medicine;

By

William W. Morgan

of

Virginia.

1825

A Dissertation
on
Hepatitis,

Submitted to the Examination
of the
Provost, Professors & Regents
of the
University of Maryland;
For the degree of
Doctor of Medicine

By

William H. Morgan
of
Virginia.

1825

Hepatitis

Of the various diseases incident to our climate, affections of the Liver, call for the apristance of the Physican perhaps as frequently as any other. and in selecting a subject for an inaugural dissertation, I know none more appropriate than Hepatitis. ~~both~~ as well from the frequency with which we meet with it. as its great tendency to an unhappy termination. when not properly combatted by the means we so plentifully poses.

Hepatitis is generally divided by Authors in Chronic & Acute. the same causes that produce the one, will under different circumstances of Constitution &

excite the other.

Of the remote causes of this disease Marsh Effluvia must certainly be reckoned the most frequent. it has been supposed that it acted by contaminating the Blood. this, says the distinguished Professor of the Theory and Practice of Physic in the University of Maryland, "is not so, or it would, so soon as it came in contact with the Heart produce death." some have imagined that it acted on the Bile, and diffused it through the Blood, this I think can not be the fact. and others have supposed that it acted first on the Stomach, and by sympathy on the Liver, this I think the most probable mode of its operation.

Where the Bark and Wine are substituted for the Lancet & Mercury in Intermittent Fevers, affections of the Liver frequently supervene.

Stimuli of different kinds, as ardent spirits when taken to excess, will produce it, under circumstances where Marsh Effluvia could not have been evolved.

t it is not generally so inflammatory, as when
cited by Marsh Effluvia.

alculi in the Biliary ducts have caused this disease
has been contended by some that calculi cannot
e produced in the Liver, but, says Dr Potter, "they may
e formed in any part of the system, even in the
rain".

e late very erudite and accomplished Physician the
enerable Dr Cullen, says. "The remote causes of Hep-
titis are not always easily discerned, and many
ave been assigned on a very uncertain foundat
on, the following (says our Author) "seem be frequent
y evident. External violence from falls or contu
sions, certain passions of the mind, violent heat,
d excessive cold &c"

Having detailed the most common causes
f this disease. I shall now proceed to its symp
toms, and from thence to its treatment.

patitis assumes a great variety of forms, the
ronic is often accompanied by intermittent and
mittent fevers, Dr Potter says "there is more danger
ischief going on with fewer marks of inf
ammation danger in this disease, than in any
ther, and hence, the necessity of discovering the
egree of inflammation.
he acute form of Hepatitis is generaley attended
ith, pyrexia, pain in the head, right hypochondrium
& of the shoulder, and under the clavicle, if the left
obe is diseased, the left hypochondrium, and sho
lder become affected.
he tongue is frequently white, sometimes yellow.
kin hot, & dry.
owels, irregular, sometimes constipated and at
thers a profuse diarrhea, stools, brown, green
r white, as the quantity, and quality of the bile may
e, if the patient has had no evacuation for
wo or three days, and takes a Cathartic they will
e found black.
rine high coloured generally

Liver is frequently enlarged, which ~~it you~~
be discovered under the ~~Ribs~~ lower part of the
ternum, if not in the Hypochondriac regions.
e Leg (says Dr Potter) is sometimes swelled in
e acute stage, a symptom not often accom-
anying the chronic form.
The Patient generally lies more easily on
the affected side.
The Pulse is small, hard & frequent.
Such are the symptoms that generally accomp
any the Acute disease, distinguished from the Ch-
ronic by the latter being attended with fewer
symptoms and they less violent in degree
than the former.
As a congested state of the Liver seems to be
e proximate cause of this disease, we would
may say) naturally, recur to the Lancet as our
emedy in altering its diseased state, but, high as is
y opinion of the Lancet, we cannot here trust

it exclusively, we must bring in to our aid that
valuable class of Medicines Purgatives.
bleeding and purging alternately and freely.
e remove the congestion of the Liver, by the
ancet: and the vitiated bile from the Intestines
purging: so long as this vitiated secretion
emains in the intestines it will there act as
n irritant and all our means no matter how
fficient will be unavailing.
~~In the Acute~~ I would here recommend as purga
tives, the oleum Ricini, combinations Jalap, Aloes,
Rhubarb, Scammony, Gamboge, &c the neutral Salts.
The Antimonial Preparations are of little value,
except when they act as purgatives.
In the Acute state, Mercury should not be
exhibited. (for says Dr Potter) if you have an
Acute Hepatitis and use Venesection & Mercury.
you keep up inflammation with Mercury
s fast as you reduce it with the Lancet.

India where the disease is common they depend
Mercury almost to the almost exclusion of the Lancet, and
ince their want of success.

When this disease is excited by the irritation
f a Calculus, the Pulse may be reduced for
while by bleeding, but it will soon regain
s former standard.

We have little more to do in the inflam-
matory stage than bleed & purge freely, but
when we have reduced the Pulse, and the other
ymptoms of inflammation have abated!
Mercury may be brought in as an invaluable
uxiliary, exhibited in small, and frequently
repeated doses, so as to produce its alterative
ffects, and here the Blue Pill seems preferable
o any other preparation of this metal.

When the pain in the side continues for
ome time, after the other symptoms of
nflammation have been subdued, might not

ointment of the Tartrate of Antimony &
tash, which has been used so frequently in
ronic diseases of late, be of more benefit
here
on the external application of Cantharides.

This essay was commenced merely in com
liance with the Laws of the University, and
ot with the expectation of throwing any
ight on the subject. I will conclude with
umming up the principal remedies for the
ure of the disease. they are Bleeding. Purging
Mercurials. Evemas. Blisters &c

An Inaugural Essay

on the

Contagion of Typhus Fever

Submitted to the examination of the

Right Revd Bishop Kemp D. D. Provost,

and Regents of the University of Maryland

For a degree of Doctor of Medicine

on the third day of April A. D. One thousand

eight hundred and twenty five

By James Cheston Junr

of Maryland

But a few years have elapsed since those fevers now known to be the product of marsh miasm or vegetable decomposition were described by every Nosologist as contagious deseases, and received as such by the most enlightened men of the world. Happily however for the advancement of Science and the general welfare of mankind, these opinions have been discarded by every sound and unprejudiced mind. With respect to that disease termed Typhus Fever there still exists considerable diversity of sentiment; the most important point of difference being that of its Contagious quality. The opinion which we mean here to advocate is - That it is produced by the same remote causes which give rise to Intermittents & Remittents, acting upon a certain condition of body which has been brought about by the influence of a cold damp atmosphere, depressing passions, bad food & cloathing, crowded apartments and the indulgence of debilitating vices. Hence we find Armstrong who has given us the most able description of the disease, states that it is frequently confined to particular districts of London, owing as he says to the lowness and filthiness of those districts from their being inhabited by the lowest and most abandoned of Society; on whom all those depressing Causes so favourable to the production of a Typhus State must be supposed to act with peculiar force. If it were Contagious and propagable from person to person, Why should it be confined

to these particular districts? May it not be owing to the dampness of the atmosphere, the crowded state of society in the manufacturing towns and consequently great number of poor that Typhus is so common a disease in Great Britain as to give rise to an idea that it is nowhere else to be found; and not to any specific Contagion? We are supported in this view: that whatever debilitates the body and brings down the powers of life predisposes to Typhus fever, by the statements of Armstrong, who asserts that wherever there is general distress among the poor Typhus is certain to appear provided Marsm Miasm be generated. An example of this occured in Ireland in 1817. There had been an entire failure of the Potatoe Crop from long Continued Rains which deprived the lower Classes of society of their usual sustenance, and the Sod was so wet that they were without fuel: under these circumstances Typhus fever made its appearance and destroyed great numbers: Yet notwithstanding its supposed highly Contagious property, those who were able to live Comfortably, entirely escaped although they had constant intercourse with the sick. This fact we relate on the authority of an intelligent and highly respectable fellow student who witnessed the circumstances. We also feel ourselves in a measure supported in the opinion we have adopted by the acknowledgements of some who maintain that it is a Contagious disease. Dood when speaking of Typhus in his Study of Medicine says, "Though febrile Miasm issuing from a decomposition of human effluvium has a peculiar tendency to generate Typhus, we have seen that

the same Miasm issuing from a Marsh effluvium or a decomposition of dead organized matter, under a peculiar state of modification, has produced remittents of a Typhus character and sometimes specific Typhus itself." And indeed the same author goes so far as to assert that Typhus may be produced by all the causes which produce any other fever. And Armstrong although educated in the belief that it was produced and propagated by a specific Contagion and after having taught the same doctrine himself has acknowledged his error with a degree of candor which does him credit, and states that he now believes it to arise from the same causes which give rise to Intermittent & Remittent; and that he has seen those three forms of fever pass into each other and also that he believes this peculiar miasm to be the only cause, as he has never seen the same combination of symptoms produced by any other cause. It is true he is still of opinion that in some cases he has seen it propagated from person to person, but it is not at all to be wondered at that he should not be able to divest himself at once of this opinion. Yet the case which he cites as illustrative of its contagious quality does not lend in the slightest degree to substantiate his position, for the subject had been exposed to the same causes which gave rise to it in the first patient.

It is stated by different authors upon the subject that it is rarely Epidemic, and this they ascribe to the slight degree of volatility of the Miasm. This is a singular reason, for if it be contagious at all, and intercourse with the healthy be not

restricted, the more concentrated the virus the more forcible would be the impression; and as we cannot conceive a disease so formidable in its character to be produced by a very feeble poison, it ought to be communicated as readily and be as generally diffused as the Small Pox or any other Contagious fever—

It has been urged as an objection to the opinion that this disease is produced by Marsh Miasm, that it occurs at a season when Malaria is generated in very small quantity if at all. This objection cannot be admitted as valid for we do not yet know at what degree of temperature vegetable putrefaction may take place, & provided there be a sufficient degree of warmth and moisture for this process, the lower the temperature the more certainly will Typhus be produced: not from any change effected in the quantity or quality of the poison, but from the more depressed state of the living powers and consequently diminished capability to resist any offending agent. Hence Typhus is chiefly a disease of Cold and humid climates. But on the other hand if the temperature be so low as to put a stop to the putrefactive process Typhus is at once checked. Thus Armstrong mentions that "Whenever the ground is bound up for some days by a hard frost, Typhus ceases to exist in districts where it before prevailed". Bancroft who is one of the most able and ingenious defenders of the doctrine of Contagion of Typhus, has we think completely set at rest the question of the disease being produced by human effluvium.

Among a variety of facts which he has adduced in support of his position, he has cited the Kamschatkans & several tribes of Savages upon the authority of M. Lesseps, as a people entirely exempt from any species of fever. Now it is a little singular that such a man as Bancroft should have inferred that any race of men are free from febrile disease of every description merely because a traveller had not mentioned them in the list of those diseases which he had observed. These people we are informed occupy their huts beneath ground for seven months in the year and live entirely on dried meat or fish; no mention being made of vegetables. Now however noxious the air of these cabins may be to a stranger we should not expect that people whose "ambrosial repast is the Muigal, or fish flung into a pit until it is quite rotten" would feel any inconvenience from the stench which surrounded them. Even if the circumstances present in these situations were capable of exciting a fever in a stranger, it is not probable that those who had been accustomed to their influence from birth would suffer: this is strongly exemplified in the inhabitants of miasmatic districts. The above observations equally apply to the remarks of the same author in relation to the Russian peasants—

In the deportation to Cayenne of Job Aime' and others, the prisoners were placed under all those circumstances which we have already mentioned as favourable to the production of the disease, provided vegetable putrifaction had been present, but as this is not even hinted at we do not think that the narrative militates in the slightest degree against

the opinion we are endeavouring to maintain. In the Black Hole at Calcutta they died simply for the want of sufficient Oxygen to support life, and from excessive pressure: and we should as soon have looked for the production of Typhus fever from placing an individual in a partial vacuum, as under these circumstances and have as confidently anticipated his revival upon the free admission of air in the one case as in the other.

The disease as it occurs in our own Country is unquestionably non Contagious, and we find it constantly occurring in those situations most favourable to the production of Marsh Miasm and among those orders of society most obnoxious to all those depressing causes likely to give rise to a Typhus condition of body, as among the free blacks in our large & populous cities. In Philadelphia this disease prevails every winter in the Almshouse and although the resident paupils and trustees frequently suffer there has never been an instance where the disease has been communicated to any one of their own families. We are aware that those Gentlemen who have embraced the opinion of its being a contagious disease deny the existence of the disease in this Country. In reply to this we can only say it corresponds exactly with the best descriptions which we have of the European disease. But to meet them on their own ground if the disease were contagious it certainly ought to have been imported into this Country after the long intercourse which has subsisted with Great Britain and would certainly have manifested this contagious quality here. Indeed there is no doubt but the disease has been brought repeatedly in Convict ships, yet in no instance have the patients

been known to Communicate the disease to others. It had been alledged that from some peculiar influence of our Climate or atmosphere we are either rendered insusceptible of its poison or the disease itself is deprived of its Contagious quality. This is mere supposition however unsupported by any analogy. We look with Confidence to Armstrong to set aside this doctrine of Contagion and have no doubt that the time will arrive when it will be as generally discarded as that of the Contagiousness of Yellow fever is at present.

Finis.

An Inquiry Physiological
on the
Phenomena of vomiting
Submitted
as
Inaugural Dissertation
To the Provost & Professors
of the
University of Maryland
for the degree
of
Doctor of Medicine
by
Robert Smith
of
Maryland
April 1st 1825

The subject which I have selected for my Essay, is one, to which the attention of Physiologists has been conspicuously directed. The point to which I allude is the phaenomena of vomiting, or rather that action, or series of actions, by which man & other animals, similarly organized, reject by the mouth the substances which have been introduced into the Stomach, or in other words its contents.

The knowledge of the causes, the phaenomena & the results of this process, constitutes one of the most interesting points of Medical Theory.

It is a subject upon which a great deal has been written, & yet, notwithstanding the multiplied research, the numerous experiments & reasonings which it has provoked, Physiologists are by no means settled with regard to it. The necessity then of a thorough acquaintance in what this process consists, what organs perform it, & what modifications it impresses upon those organs, as well as the System generally

is at once apparent, for it is obvious that we should always be borne out by principles, in the application of the several emetic agents, which are resorted to with therapeutic intentions.

Emetics are so often given by some Practitioners, whilst others on the contrary doubt so much their effects & proscribe them in so absolute a manner, that it is desirable & important, to the enlightened Physician & humanity, to understand the principles which are to regulate him, in the prescription of an order or class of remedies, which act so powerfully on the principle organs of the economy, & upon the system at large. It is here that Physiology alone can throw any light upon Pathology & therapeutics. It is the lamp which can alone guide the judicious Physician in practice.

The abdominal muscles, the diaphragm, the stomach & oesophagus, the pharynx & the mouth, are incontestibly the organs without which emesis could

not be performed. I do not however wish to be understood as conveying the idea that all these organs are absolutely indespendable to the accomplishment of this act; or that an animal cannot vomit if deprived of one of them. All that I wish to convey is, that all these organs concur in a state of health & in a well organized subject to its performance.

Towards the close of the 17 Century, Physiologists admitted that vomiting was referible to a brisk contraction or rather, a violent & convulsive action of the stomach. This view was however held more upon vague grounds than upon any exact, or settled knowledge of facts. Their attention was in no manner directed to the abdominal muscles, & the idea that the œsophagus or the diaphragm contributed to the process, was altogether remote from these readings.

Francis Bayle Professor of Physic in the University of Toulouse, appears to have been the first who studied the phenomena with a view

to a rational Theory, he directed his attention to the subject whilst occupied in other researches connected with the living laws. His experiments on living animals so far as they go, appear to have been executed with much address.

The name of Francis Bayle is distinguished in the annals of experimental Physiology, but unfortunately he set out with his mind so strongly imbued with mathematics, that in his reasonings connected with the animal economy, he seems to have forgotten that it was regulated by a vital principle. On the subject however which we are now examining, his mathmatical principles led him to a nearer approximation to the truth, than his predecessors. His calculations induced him to reject the stomach as too feeble to reject its contents. He regarded this viscus as altogether passive, & referred the phaenomena of vomiting exclusively to the contraction of the abdominal muscles. I am aware that this view of the subject has been given to Chirac, but the merit of the hypothesis belongs

unequivocally to Bayle, whose dissertation on the subject was written in the year 1681—

Chirac was first Physician to Louis the 15th & it was not until the year 1686, that he published his physiological researches. In the same year he published his theory of vomiting which is precisely the same as that of his predecessor Bayle—

The experiments & conclusions of Chirac may be seen detailed in the Memoirs of the French Academy (An 1705).

The celebrated Anatomist Duverney adopted to a certain extent this theory, he contented that the Stomach contributed to the Phenomena, whilst he admitted that it chiefly depended upon the diaphragm & abdominal muscles. From this period Physiologists became greatly interested in the subject. Lieutaud remarks that it seduced the learned as well as the ignorant. Lieutaud himself entered the lists & denied the legitimacy of the deductions of Bayle & Chirac.

Littre was one who opposed this view & especially Haller whose imposing authority went very far in overthrowing the new doctrine. Littre maintained that the Stomach was furnished with strong muscular bands, capable under provocation of powerful contraction. He supposed that this contraction was sufficient to discharge the contents of the Stomach, & that consequently this viscus must be regarded as the essential organ in vomiting—

Sicutand grounded his hypothesis on a case which came under his observation. It was a female whose disease indicated the necessity of an emetic. The most powerful agents of the emetic class were administered without producing any effect whatever, the woman died. Sicutand anxious to ascertain the cause of this singular phenomena opened the body. The Stomach was found enormously distended, its textures presented however no evidence of inflammation, in fact we are informed that they were natural & healthy. The inference which Sicutand drew, was

that the enormous distention had paralysed the power of the stomach, & that in consequence it was in- - capable of contracting upon its contents. To this cause he referred the incapability of vomiting. He states that the abdominal muscles & diaphragm were in a sound state & that nothing opposed their contractions. If this case however be surveyed as it should be, it is evident that no arguments can be drawn from it adverse to the theory of Bayle & Chiac. In the view which Lieutaud takes respecting the powerless state of the stomach we perfectly agree, not so however in the conclusion to which he comes. That the stomach must feel primarily the impression of the emetic agents introduced into it there can be no doubt, now in this case it was incapable from the paralysed state of its vital powers of any such impression. The connection between it, the abdominal muscles & diaphragm was in consequence interrupted. And it was to this cause that the

peculiarities of the case are to be referred. The case in no manner establishes that the stomach alone by its contraction expels its contents—

The experiments of Magendie, to which we shall presently refer, renders this more than probable. Haller, who in his day so ably treated of the subject of general Anatomy, gave to the stomach two modes of contraction, both of which he considered necessary to the explanation of vomiting. The one, an antiperistaltic produced by the longitudinal muscular fibres, originating in the duodenum & propagated towards the cardiac. The other a motion of the stomach brought about by the fleshy bands which descend from the oesophagus & spread themselves obliquely upon its surface, the contraction of these fibres producing an approach of its parieties, & consequent diminution of its cavity. On this subject, Haller by no means manifests that sagacity which on most other subjects is so conspicuous in his writings, he gives us no

experiments upon which he rests his reasonings & he even confesses that in his numerous experiments upon living animals never to have seen the second species of movement which he has called to his aid explanatory of the function of vomiting.

Such however was the empire exercised by this illustrious Physiologist, & such the magical influence of his opinions, that his theory on vomiting defective as it was received the general consent, accustomed to accredit all that he advanced, none undertook to examine critically & by cautious induction what he revealed as truths. The doctrines which he taught were therefore universally adopted, the few who were incredulous of his opinions were hushed by his imposing authority.

It is to this cause that we are to refer the neglect of the opinions which had been previously inculcated by Bayle & Chirac, Opinions which were founded on various & multiplied experiments, & which may be tested by any individual who will examine for

himself. Their theory established on the only rational & solid basis was set aside by illustrations the most puerile, illustrations which were deduced from the arrangement of the fleshy fibres of the stomach. The authority of facts was thus overthrown by the authority of a great name & the common herd always more ready to be seduced by the one, than enlightned by the other, sanctioned the most erronous principles, which had they examined would have been found unstable & led to an earlier triumph of the truth—

It is to Magendie, so well known for his ingenuity & address in experimental Physiology that we are indebted for having revived the subject. His paper containing the result of his researches, was read before the French Academy in 1813 (25th of Jan.y). His views which went to support the theory of Bayle & Chiac were known far from being received in all their extent & his paper produced as lively & as pertinacious a discussion as when originally promulgated by his predecessors—

To the comprehension of the subject in all its extent, it will be necessary to pass over in the abstract the groundwork of Magendie's conclusions, together with the several objections which have been brought forward in opposition. It is only by submitting the opinion of Physiologists to a strict examination that we can anticipate arriving at a clear & settled digest.

The first experiment of Magendie was made upon a full grown dog to which he gave 6 gr. of Tartemetic, so soon as its impression became manifest he made a small incision into the linea alba, opposite to the stomach, into which he introduced his finger in order that he might be enabled to ascertain whether or not the stomach contracted. at each effort of the animal the finger was compressed by the diaphragm & abdominal muscles, this contraction was of course sensibly felt by the stomach but so far from this viscus contracting as auxilliary to the expulsion of its contents, it on the contrary seemed to augment in volume

Magendie next extended his incision into the linea alba, for the purpose of observing with greater accuracy the movements of the stomach, the nausea & vomiting continued, & it was evident beyond contradiction to himself as well as his associates, that the phenomena of vomiting which has been referred by Haller to the stomach as the most active agent, was entirely referible to the diaphragm & abdominal muscles, the stomach experiencing no contraction which was proper to it during the process. The above experiments was repeated several times with the same result. They prove beyond cavil or contradiction that it is the pressure exercised on the walls of the stomach by the surrounding muscles that dislodges its contents & establish the validity of the view as originally advanced by Bayle & Chirac.

Not satisfied with the deductions which he drew from the above isolated experiments, Magendie so modified his researches as to place the matter

beyond doubt, he put 4 gr. of Tart. emetic in 2 ounces of water, & injected it into the jugular vein of a large Spaniel dog & immediately made an incision in the linea alba, sufficiently large to enable him to draw the Stomach out of the abdominal cavity. The efforts which characterized vomiting was soon manifested, & quickly became violent, every exertion was made by the animal to vomit, but not a particle of the contents of the Stomach was rejected, the organ remaining immovable in the midst of the general convulsive efforts. The experiment was several times repeated, & the result was similar: proving that however great the contraction of the surrounding muscles may be in vomiting, yet the Stomach itself remains permanently passive—

Magendie still solicitous that not the slightest ground should remain upon which to rest an objection, determined to extract the Stomach completely from the living animal, & to substitute in its place a common bladder. His object was to ascertain whether liquids

contained within the bladder would be expelled in the same manner as the contents of the stomach in vomiting. To this end he attached to a bladder a portion of gum elastic catheter, two inches long & a half inch in diameter. The animal was placed upon his back with the feet tied & extended, so that the abdomen might be completely exposed. an incision was made in the linea alba & the stomach extracted, the gastric vessels were all tied before they were divided, leaving a sufficiency of the cardiac portion of the stomach to be gathered about the catheter, he withdrew the stomach & the bladder was introduced, & the tube firmly fixed. The bladder now occupied the place of the stomach, the opening in the abdomen being well secured by sutures. The bladder was next filled with a colored fluid, by means of a tube introduced by the mouth. things being thus arranged 4 gr. of tart. emetic in solution was injected into the jugular vein, nausea soon commenced which was succeeded

by strong efforts to vomit, the colored fluid contained in the bladder was thrown out by the mouth, precisely after the manner of vomiting, nor could it be be perceived that there was any diminution of the powers which in the natural State are destined to produce vomiting.

This singular experiment was repeated several times with the same result, they incontestibly proved that altho' the Stomach may concur in the process, that it is by no means the only organ interested. This part of the problem being established, Magendie determined to find out what part, & to what extent the abdominal muscles, diaphragm & œsophagus contributed to this process, this consideration may be considered secondary, but still it is all important to a clear rational of the process— In his experiments for the purpose of illustrating this point, he commenced by ascertaining the extent of the agency of the abdominal muscles, to this end he cut up their attachment to the ribs & linea

alba, & turned them off the abdomen: the muscles were so detached as to leave only the central fibrous tendon or the linea alba, & the peritoneum as a covering to the abdominal contents. Through the peritoneum the movements of the viscera could be readily observed, 3 gr. of tartar emetic in solution was now injected into the jugular vein, which in a short time produced strong efforts to vomit, ending in the discharge of the contents of the stomach. This effect was produced by the violent contraction of the diaphragm, the stomach which was carefully examined thro' the peritoneum shewed no signs whatever of contraction. At each convulsive contraction of the diaphragm the abdominal contents were so violently forced down as to rupture the peritoneum in several places, the tendinous central line was the only part which resisted its efforts & alth' passive, the efficacy of its existence was proved, for on dividing it the contents of the stomach escaped with much less force. This arose from the

stomach being compressed with much less force when the diaphragm acted. His next object was to ascertain the extent to which the abdominal muscles participated; for this purpose it was necessary that they should be left entire & the powers of the diaphragm withdrawn. The disposition of the diaphragm being such as to render it impossible to destroy its movements without killing the animal, it became a matter of necessity to render it powerless by other means, to effect this however appears no easy matter. If the diaphragm received its nerves solely from the phrenic their section would necessarily produce a complete paralysis, but as the diaphragm receives several filiments from the dorsal portion of the spinal marrow, we would be led to infer that a simple section of the phrenic would not entirely paralyse it, & if we were to divide the spinal marrow the diaphragm it is true would be cut off, but in doing this we should should also paralize the abdominal muscles. In this respect there we would be induced to infer that experiments

with regard to the agency of the diaphragm must be to a certain extent imperfect. Yet data sufficiently opposite to our purpose are still left upon which conclusions may be rested, as the following experiments of Magendie will shew. In a large dog the Phrenic nerves were divided in the neck, & at the same time a portion of tart. emetic was injected into the veins, in a short time the indications of its impression become evident, but the vomiting which followed was very feeble, permitting a little time to elapse, (½ of an hour) a second portion was injected but without any efforts whatever succeeding. The abdomen was now opened & the stomach compressed betwixt the two hands, this however failed to excite its contents, not even nausea was present. In the repetition of similar experiments the same phenomena always took place.—

Subsequent to the researches of Magendie, Legallois & Beclard associates, have presented us with the results of their interesting researches in

several departments of Physiology. The subject under consideration attracted their experimental enquiries. They think that the division of the phrenic nerve, is followed by a complete paralysis of the diaphragm, as they uniformly remarked that so soon as the nerves are divided, the diaphragm becomes quiescent. The experimental proof of this fact consisted in elevating the Sternum & anterior portion of the ribs of the animal, & maintaining respiration by means of the insufflation of air. They found that immediately on suspending the introduction of atmospheric air, the diaphragm prepsed down with great force, whilst at the same time the ribs were elevated, these motions were constant, whilst these movements were going on, they divided the phrenic nerve of the left side, & immediately half of the diaphragm of the same side became immovable whilst the other side continues to contract, upon cutting the right phrenic nerve the corresponding portion likewise became quiescent. This

experiment establishes that the diaphragm is the principle & most important organ in vomiting. The abdominal muscles concuring only indirectly by the resistance they offer to the diaphragm.

The next point which Magendie felt solicitous to settle, was to ascertain whether or not the œsophagus contributed to the process, & to what extent. For this purpose it was necessary to destroy both the action of the abdominal muscles & diaphragm, with this view he detached in a large dog the abdominal muscles, leaving nothing as a covering to the belly but the linea alba & peritonæum. The phrenic nerves were also divided in the neck, things being thus managed, a strong solution of tart. emetic was injected into the jugular vein without effect. It was again injected without producing any sensible effort to vomit. Magendie however informs us however that if the abdomen be simply opened & the stomach left in situ that

vomiting may take place by the violent & quick contraction of the inferior ribs, pressing from right to left; the diaphragm at the same time depressing itself & the œsophagus drawing up. This compression of the hypochondria combined with the traction of the œsophagus, may even be carried to such an extent that liquids contained within the stomach will be rejected, altho the diaphragm be paralysed by a section of the phrenic nerves in the neck.

It has long been an established fact that the progression of the alimentary materials in & of the œsophagus diaphragm is especially owing to the contraction of this tube. Physicians have laid bare the gullet in the neck & have described its action during deglutition. Haller is particular in his description of the mechanism of deglutition, but there is a phænomena which has escaped his attention, nor can I discover any notice of it except in the writings of Magendie. It is a constant alternate motion of contraction &

relaxation of the lower third of the œsophagus.
If the finger be introduced into the chest thro' an
opening made upon the left side the œsophagus
may be felt alternately rigid & relaxed. In its
relaxed state it is soft & readily displaced, whilst
in the opposite state, or that of contraction it is firm &
resisting. The contraction commences at the superior
third of the tube & is gradually prolonged to the cardia.
Magendie regards this motion as altogether independent
of irritation, he thinks that it is kept up by the
filiments of the pneumo. gastric nerves, which form
form a compact pleaus around the inferior portion
of the œsophagus. On dividing these nerves it was
found to cease instantaneously. During the contracted
or rigid state the cavity of the tube is completely
closed, its walls being so closely approximated as not
to permit even fluids to pass. The mucous membrane
which lines it internally is projected more or less
into the stomach in the form of a hood. The contraction

are more frequent, stronger & more prolonged when the stomach is distended with aliment than in a state of vacuity. After each deglutition it remains for some time contracted as if to prevent the regurgitation of the food swallowed, causing it to remain until the stomach is habituated to its impression, & commences to act upon them. nevertheless the substances introduced into the stomach frequently escape from that organ, into the canal which is above it, when the contraction of this canal has disappeared before that of the stomach. But even in this case the egesta seldom reach as far as the pharynx for when regurgitation does take place as soon as it reaches the inferior third of the oesophagus it contracts immediately & presses it again down into the stomach. The egesta never rise up in the mouth except in such cases as when they excite disgust, or when driven in great force or in large quantities they irritate the mucous membrane of the pharynx, pro-
=ducing a relaxation of the fibres of this canal, or

invertid peristaltic action through its whole extent.
It is from this mechanism that we are to refer the
regurgitation which we frequently observe in infants.
Rumination in the herbivirii is excited after the same law.

From the above facts it is very evident, that the
oesophagus is not passive in vomiting.

The Physiologists who have arrayed themselves in
opposition to Magendie have in this respect fallen into
a serious error. They have, one & all, neglected the
consideration of this organ. In their experiments & spec-
=culations they have regarded exclusively the stomach
neglecting to take into account the other organs, the
concurrence of which are indispensable to the full
execution of vomiting.

When the oesophagus is destroyed in the neck
tart. emetic whether introduced into the stomach, or
injected into the veins, produces the same effect: it
is the same also when the gullet is divided at diffent
heights in the thorax until we arrive within two inches

of the diaphragm. If a section of the æsophagus be made at this point & the whole of it be dissected out, leaving the pharynx, tart. emetic injected into the veins will also produce vomiting. But if the portion within two inches of the diaphragm be cut away in a level with it & the whole of the æsophagus at the same time be dissected out, tart. emetic injected into the veins produces no effect whatever. The last experiment was repeated by Magendie six times & in every instance with the same result—

The experiments of Legallois & Bertard on the same subject have presented us with highly interesting results, & whilst they agree with Magendie that tart. emetic will produce no effect (the æsophagus being entirely removed) when injected into the veins, yet if it be placed within the stomach its impression becomes immediately manifest. Their results are interesting in as much as they lead to a positive conclusion that tart. emetic when injected into the veins

owes its operation to the impression which it produces primarily upon the œsophagus, consecutively extending to those organs, the concurrence of which produces full & complete emesis—

In the experiments of Legallois & Beclard, they find that when the œsophagus was detached from the pharynx & extracted, hanging from the neck of the animal, that it alternately contracted & relaxed giving evidence of a strong peristaltic action, commencing above & extending towards the cardia— The motions were regular & to a certain extent synchronous with respiration. When vomiting was provoked the œsophagus was drawn up by powerful & successive jerks. Independently of the traction or drawing up which the œsophagus exerts upon the stomach, it also performs other functions during vomiting which have been noticed by the same experimentalists. They remark that it is not often, until repeated & ineffectual efforts that the animal

subjected to experiment discharged all at once a large quantity of the stomach's contents, several efforts were made terminating in one which expels a large quantity, according to those gentlemen all these antecedent efforts serve only to accumulate by small quantities the contents of the stomach in the œsophagus which drawing up & contracting discharges them with more or less force. It is no doubt upon the same principle that after nausea has existed for some time unaccompanied with any distinct effort to vomit, that all at once a flood of matter is discharged & without any effort or manifest contraction of the abdomen. It is also upon the same principle that eructation takes place—

The Physiologists, who in opposition to Magendie, contend that the stomach is the chief & most active organ in vomiting, ground their conclusions for the most part upon experiments which were made a long time ago—To say the least, these experiments should have been repeated by them, but instead of doing this

they content themselves declaiming against vivisections.
They contend moreover that experiments on living
animals, furnish no legitimate data upon which
absolute & rigorous conclusions may be founded, concerning
similar phenomena in man, & that it is impossible
that the phenomena of healthy organs can hold any
parallel with those exhibited in dogs who are suffering
under ~~any~~ acute pain & convulsions & who in fact are
tortured to death. These arguments, if such they can
be called, are specious; they are calculated to entrench
on common sense in the appeal which they make
to our humanity. If Physiologists were all to permit
themselves to be influenced by such feelings the science
of life would be at end. To what cause are we to
refer the progress which has, of late years, been
made in Physiology? is it not to the experimental
zeal with which the subject had been explored, prosecute
experiments & we shall soon see closet dreamers &
speculations without number, & with them Physiology

evaporating into airy nothing without "local habitation or name".

It is only by experiments that we can establish any thing fixed or certain in physiology, & with regard to the subject under consideration, the sole means which can enable us to know whether the stomach does contract, is to examine the organ in an animal during the process of vomiting. By what train of reasoning, by what inductive physiology can we overthrow the facts which have been revealed to us by the experiments of Magendie, Legallois & Beclard on the subject in question. The opponents of Bayle, Chirac & Magendie refer to the facts as stated by Wepfer & Haller, who inform us that they have in their researches seen the stomach contracted. These assertions are brought forward with the seeming confidence that they are unanswerable —

It is true that Wepfer & Haller have informed us that they have seen contractions in this viscus, but

without at all calling in question the integrity of their ~~of these~~ statements, why should it not be acknowledged that these philosophers were mistaken, the laws of the economy are the same now as they were in their day, & we may ask by what strange anomoly they were enabled to discover that which could not be made evident to Magendie to Bectard & Legallois. whatever may have been remarked by Wepfer & Haller we consider as altogether inconsequent & to bring forward the facts as stated by them at the present day, in opposition to the enlightened authority just cited, to say the least, looks like being driven to the last extremity.

It is maintained that if an incision be practised in the anterior wall of the abdomen & corresponding to it, another incision be made into the stomach, that on introducing the finger the contractions of this viscus can be readily felt during vomiting. But M. & L. Begin, who has repeated these experiments denies that any such contraction will take place, the sensation of contraction

which the finger experiences is evidently referrible to the contraction of the abdominal muscles. He states, in fact, that nothing positive with regard to the stomach can be ascertained in this manner for the finger being introduced into the stomach, it must necessarily be gathered up, or rather be compressed at each contraction of the abdominal muscles & diaphragm. M. Begin so modified his experiments as to be enabled to combine the sense of sight with that of touch: the abdomen was accordingly laid open, & the stomach exposed to the combined inspection of both senses. No contraction whatever of the stomach could be discovered — Here have the testimony of one sense rectified by that of another, & surely a fact established by the combined operation of both, is more worthy to be credited than one simply established upon impressions separately transmitted by one, (that of touch) & under circumstances too in which erroneous conclusions may be readily drawn.

Portal, who advocates the theory which

endeavors to establish that the stomach is active, feels himself borne out in maintaining this view by the following experiments. He selected two dogs, to one he gave a portion of arsenic, to the other nux vomica. The first dog very soon manifested the operation of the arsenic by hiccough, vomiting & violent convulsions in this state he opened the abdomen by an incision on the right side, so that he might be enabled to see the stomach; the vomiting still continued & he informs us that he distinctly saw the stomach alternately contract & relax with great force, & that this uniformly took place in the act of expiration — He informs us that he, several times, compressed the stomach (betwixt his hands) when the diaphragm was in a state of contraction, for the purpose of ascertaining whether mechanical pressure would force the contents of the stomach into the gullet, & thus produce vomiting. But he tells us that all his efforts were in vain, from the circumstance of the strong compression

which the diaphragm exercised upon the lower portion of the œsophagus when in a state of contraction.

The dog, to which he gave the nux vomica vomited violently, & continued to vomit notwithstanding the abdomen was laid open. Portal concludes from these experiments that vomiting can take place by the stomach after the muscles of the belly are divided, this we do not deny. The experiments of Magendie which we have already exposed prove this incontestibly. But Portal refers the vomiting entirely to the stomach, remarking that the diaphragm has little to do with it, in as much as the passage of the contents of the stomach into the œsophagus only takes place during expiration or when the diaphragm is in a state of relaxation.

Portal has fallen into a very serious mistake & which overthrows all the inductions which he has deduced from his experiments, he states that in an animal during vomiting the stomach appears to

contract during inspiration & dilate during expiration—
Now this we admit, but we cannot agree with him,
when he says that the first of these phaenomena
coincides with the contraction of the diaphragm & the
latter with the relaxation of this muscle. During the
efforts exercised by the diaphragm & in the most violent
contractions of this muscle, expiration for the most
part takes place. This assertion, it is true at first
sight appears paradoxical nevertheless the proposition
is readily demonstrable. When the diaphragm contracts
violently upon the abdominal viscera, it is scarcely
depressed, or at any rate it depresses itself with very
great difficulty growing out of the resistance which
the viscera oppose, sustained & kept up as they must
of necessity be by the abdominal muscles. The
abdominal viscera are compressed, in fact between two
forces which antagonise each other. If the diaphragm
were depressed the abdominal muscles would become full
or protude, this however we know does not take place

in the efforts to vomit. The abdominal muscles are on the contrary very much depressed towards the epigastrium & under the false ribs. In the struggle which is thus established between the diaphragm & abdominal muscles the diaphragm which is far the feeble force of the two would be readily overcome, & the viscera within could not be so effectually compressed if it were not for the auxiliary forces of the intercostal muscles; which forces cooperate to depress the thorax. The air in the lungs would now escape but the glottis being closed & preventing it, it must necessarily react upon the thorax & especially the diaphragm. It is the intercostal muscles & the air kept in the thorax by the glottis which enables the diaphragm to counterbalance with advantage the action of the muscles of the abdomen. Connected with the consensus thus established respiration is momentarily arrested, the glottis finally yielding the air escapes producing that peculiar noise which is so characteristic of vomiting. The diaphragm is at this

juncture deprived of the auxiliary powers which sustained it & of course yields also. the viscera are, at the same time forced up towards the thorax. a temporary calm now succeeds, deep & full inspirations are ~~now~~ made to repair the loss which the suspension of respiration has occasioned: the calm continuing until the contraction of the abdominal muscles are renewed. The efforts to vomit never takes place during inspiration, the discharge of the contents of the stomach is attended with the expulsion of the air contained in the thorax at the instant that forced expiration takes place, the stomach is compressed & continues to be so until the diaphragm overcome by the abdominal muscles yields & is forced up in the thorax producing a forced expiration of the air contained in the lungs.

The truth is Portal mistook for the relaxation of the stomach, the projection which this viscera makes when it is pressed from above by the diaphragm & laterally by the ribs, & he on the contrary further

mistook the cessation of this projection for its contraction.
The least attention is sufficient to show how erroneous
his conclusions are, for simple pressure with the
hands will not empty the stomach: its contents are
never emptied or forced into the œsophagus, except when
the diaphragm contracts. The contraction of this muscle
accompanied with a traction or drawing up the œsophagus
is absolutely essential to its production.

Some time after the publication of the
memoir of Magendie, M. Maingault read to the
Society of the faculty of Medicine a monograph
in which an attempt is made to overthrow the theory
of Magendie. The committee appointed to report
on the merits of this paper was composed of
Legallois & Berlard, the experiments of M. Maingault
were repeated before them: but the report of these
gentlemen so far from agreeing with the author,
deduced from their conclusions entirely conformable
to those of Magendie.

M. Begin in his course of experimental physiology has repeated the experiments of Magendie before a large audience. His pupils have seen & examined for themselves & their conviction has uniformly been that of all the organs which concur in the process of vomiting the stomach is the feeblest & of itself incompetent to the act. The experiments of Magendie have also been repeated in England & Germany & in no instance have we the legitimacy of his results contested by those, who untrammeled by prejudice have deliberately examined for themselves. A theory resting as this does upon premises which have been so repeatedly examined & by Physiologists so competent to judge must be regarded as beyond the reach of sensible criticism. Magendie's paper was read before the first class of the Institute. Cuvier, Humboldt, Pinel & Percy were commissioned to enquire into the verity of his experiments. The report was decidedly in favor of Magendie —

Distinct from the objections which we have just canvassed, it has been maintained that if the Stomach was not the most essential organ in vomiting, that this act would be provoked every time the Stomach was compressed by the abdominal muscles & the diaphragm. And it is asked, how is it that vomiting does not take place under those circumstances in which great pressure is exercised as in parturition, the evacuation of the faces & the numerous & various efforts the abdominal muscles undergo in sustaining burthens. And if say they that vomiting is dependent upon pressure exterior to it, how is it that vomiting does not take place. The conclusion from the above facts would be just if the abdominal muscles & diaphragm were the only organs concerned, but there exists many other organs, the concurrence of which is indispensably necessary to the accomplishment of the act & which are not taken into account in summing up the above objections.

It is not only necessary that the stomach should be compressed but the œsophagus must also be the seat of antiperistaltic contractions, which cause it to admit through the cardia, the materials of the stomach, transferring them by a force peculiar to it to the pharynx. The latter continues the movement projecting them into the mouth. Now the concurrence of all these organs is altogether wanting in the objections which we are now encountering, moreover the œsophagus opposes itself actively, as Magendie has proven to the egress of the substances within the stomach, experience teaches us that this tube presents in its inferior third strong contractions during which the contents of the stomach cannot issue from it. If we pay attention after a full meal to what we experience, more especially if the ali-
-mentary materials offend the stomach we find that an effort is necessary to dispose the œsophagus to reject a passage to the food, attention to this is

often necessary in order to maintain a state of contraction
in the œsophagus & if for a moment our attention be
withdrawn we are surprised with a regurgitation of food,
which we may distinctly feel & which we can cause
to descend before it reaches the mouth, by exciting
a strong movement of deglutition, & strongly contracting
the œsophagus. It is evident that in this case the
stomach distended beyond its proper relations, or of
suspended in its functional capacities, contracts in
order to disembarrass itself of its contents. The force
is felt both in the pylorus & cardia, the pylorus
will not admit them because they are not
sufficiently elaborated, & the cardia refuse them on
account of the contraction of the œsophagus. But
if they are urged towards the œsophagus at the
moment that it is relaxed, & enter its cavity
antiperistaltic actions may be produced & regurgitation
take place. It is in this manner that we see
dogs vomit when their stomachs are gorged. And vomiting

may also be produced in them by strongly compressing their stomach between the two hands, provided the pressure is executed when the æsophagus is relaxed.

The muscular fibres which enter into the composition of the stomach, are under the influence of the impressions made upon its internal mucous tissue. During chymification the chyme is carried towards the pylorus in proportion as it is formed, by the action of the muscular fibres which act by a slow undulatory motion, & when any portion of the alimentary materials not yet elaborated present themselves towards the pylorus, they are rejected & carried back, to be farther submitted to the action of the stomach. In birds of prey feathers & other substances not digestible, which they swallow in their repasts are gathered together in the cavity of the stomach, & carried towards the cardia, this highly sensitive part becomes irritated & a slight contraction of the abdominal muscles in conjunction with the

antiperistaltic action of the œsophagus & stomach is sufficient to cause these substances to pass out of the mouth. The same phenomena takes place in pigeons in feeding their young, they discharge the contents of their stomach in the mouth of their offspring. In animals who ruminate the phenomena is referrable to the same law.

Those who contend for the activity of the stomach in vomiting lay much stress upon the number, the volume & direction of the fleshy fibres which form a component part of its texture. They insist that if the stomach is not the principle agent in vomiting, that these fibres are ~~not~~ given for no purpose whatever. The important purposes which they subserve we have referred to, but we would ask what is the most likely means to render us acquainted with their energy & manner of action? Is it to say vaguely that vomiting depends upon their convulsive contraction- is this

calculated to advance us one step towards the truth? Certainly not- but if we uncover the stomach, stimulate its walls & excite vomiting, observing with attention the phenomena which it presents, we are then in the way of making clear & legitimate deductions. If under such circumstances we see the stomach immovable under the most violent contractions of the abdominal muscles. If on irritating its walls, whether internally or externally by mechanical means, we observe it to present no other motion than a vermicular movement, common to the whole intestinal canal, & which by the by, is less energetic that in the small intestines. We are necessarily forced to the conclusion that this motion is the only one the stomach is susceptible of.

Vomiting is an act independent of volition, an act produced by an irritation of the mucous membrane of the stomach, or rather of the parts comprehended under the Splanchnic Sensorium. There are examples related of individuals who could vomit

at pleasure, & we have seen somewhere the still more extraordinary fact of two individuals who could at pleasure control the action of the heart, such examples are, however rare & are to be considered as anomalous to the laws of organic life. The examples of individuals who could at pleasure vomit cannot be considered as examples of true emesis, they are all mere examples of mere regurgitation. It is said that Bichat could unload the contents of his stomach whenever he thought proper, & M. Montegre in his researches on digestion, published in the Gazette de Santé, informs us that he could by an effort of ructation bring up the contents of his stomach. He availed himself of this faculty in his investigations on the subject of digestion. Richerand in his elements of Physiology, mentions a similar case of a gentleman attached to the war office.

On the whole then we may conclude that emesis cannot be produced unless an irritation of a

peculiar nature be provoked in the mucous membranes of the superior part of the digestive canal, this irritation acts powerfully upon the mucous ~~follicular~~ jugular glands & exalent vessels, the immense quantity of secretion which they pour out proves this. Darwin relates the case of a man, who had swallowed but a pint of drink, but who on vomiting immediately after discharged six pints of liquid. The duodenum, liver & pancreas are also powerfully excited, as is manifest from the large quantity of their secretions found out.

So far the mechanism of this process appears intelligible, but with respect to the modus operandi of emetics it may be regarded as a question not easily solved. Physiologists for the most part refer their action to a specific impression upon the stomach inducing in it a convulsive antiperistaltic action. This rationale of their operation is by no means satisfactory for we know that emetic substances injected into the veins will produce the same effect

as when taken into the stomach, & experiment has proven that vomiting will take place even when this organ is eviscerated. This fact proves that the impression of emetic agents upon the stomach is by no means indispensable to their operation. It would seem that the impression is received by all the organs under the dominion of the splanchic sensorium. We know that this constitutes the great centre of the sympathies, which are so conspicuously manifested in the vicinity of organic life. It is here that the impression of emetic agents must be primarily felt & consecutively transmitted to the moving organs whose action is so essential to the execution of vomiting. The subject is one surrounded with difficulties & why tart. emetic injected into the jugular veins should produce the same characteristic impression as when taken into the stomach, we cannot so readily explain. We are much in want of proper data to enable us to know upon what principle it is that different substances produce

different effects upon the life & textures of the various organs of the body. To say that they operate by an impression upon the stomach, which impression modifies the vital relation or movements of the whole system, or its particular dependencies is to generalize upon too narrow a foundation, & which if deliberately canvassed, will be found incompetent to illustrate many interesting phenomena, which we see daily manifested in our administration of the therapeutic means. We in the first place know, that many agents exert a marked impression upon certain organs. Canthárides & turpentine when administered in a given dose uniformly operate upon the bladder, mercury acts upon the salivary glands, & cream tartar provokes powerfully the secretion of the liver. arsenic, when applied externally, kills by being absorbed & producing inflammation of the stomach. Are we in explination of these facts to rest satisfied with the assertion but their effects were referrible to an impression on the stomach, sympathetically extending

by nervous irradiation to the organs which especially manifest their agency. We hold such an explanation as unphysiological, would it not be more in accordance with reason to explain their operation upon the fact of their being absorbed: That turpentine is absorbed we have evident proof of in the violent odour which it imparts to the urine. not that we for a moment suppose that it is thrown off by the kidnies on the contrary we regard it as thrown off by the mucous membrane of the bladder. We are borne out in this view from its being recognised in the lungs, its agency in chronic bronchites & in leucorrhœa, an agency growing out of the circumstance of its having a relation with the secretion & vital properties of the mucous membranes. That this is the manner that turpentine act, we infer from the fact of the genito urinal as well as the pulmono gastric; both discharging it with their secretions. In the case of inflammation of the bladder, it does not produce its effects by

virtue of any alteration which it impresses upon the secretion of the kidnies, it cures by its quick stimulant impression upon the capillary secerning system of these textures. We consider this proved from its being equally efficacious as we have just stated, in leucorhœa & in chronic discharges from the uterus as well as in chronic bronchites. madder is deposited in the bones & in no other texture of the body & this because it holds a relation with the constituent elements of this texture.

May not tart. emetic whether injected into the veins or introduced into the stomach produce its effects upon a similar law, operating upon the mucous membranes about the cardia &c.

What is here proscribed would seem to gain additional strength from the fact of tart. emetic producing the same effect when applied to the serous surfaces, here it must act by being absorbed as arsenic does & not only is the mucous membranes of the gastric system irritated but that of the lungs is likewise.

An

inaugural essay on cancer

submitted

to the examination

of the

Rev. James Kemp D. D. Provost,

the regents and Medical professors

of the

University of Maryland

for the

degree of doctor of Medicine

by

Washington W Hill

April 1 1825

Benjamin W. Hickman M. D.

I take the liberty of dedicating to you this little essay; and permit me at the same time to assure you that the gratitude which I feel for your kindly attention and useful instruction, as well as the respect I entertain for your private and professional worth will remain with me unto death.

W. W. Hitt

The term cancer or carcinus is of greek origin and imports a crab; the disease being thus called from the cancriform or crab-like ramifications of the dark, distended veins of the cancerous tumour.

With Hippocrates we may perhaps most properly consider all the species as comprised in the occult and open cancer. A cancer then, is a hard unequal tumour with or without ulceration. We call that an occult cancer that is not yet burst, and that an open one which is ulcerated.

Dr Cullen places this genus of disease in the class locales and order tumores. He defines it a painful scirrhus tumour terminating in a fatal ulcer. Since Cullens time many writers of the present day, among whom are Dr Baillie and Mr Abernethy concur in regarding it as local alone. "If the disease be merely local, it is difficult, and perhaps insuperably difficult, to say why a blow on a conglomerate gland, as the breast for example, should some times produce a cancer but more generally not: or what that power is that excites the cancerous action of one person, from which another, or perhaps a hundred others, remain free upon an application of the very same injury to the same organ. A blow on the knee often produces white swelling; but ten thousand children receive blows on the knee without any such effect following. In this case we resolve the difference of result, without controversy into the presence or absence of a scrophulous constitution; and without this view of the subject we should find ourselves at a loss for an answer.

The cases, moreover, in which cancerous tumours are found in other parts of the body after one, or more than one, has been extirpated lead us by an easy thread to the same conclusion,

provided the tumour has been removed in an early stage of the disease; and before ulceration has taken place; for it is possible that the specific matter of a cancer, generated and matured locally, may be absorbed and deposited on the organs which are afterwards affected. But if the extirpation have taken place before the formation of the specific matter, it is not easy, except by a constitutional taint, to account for any subsequent appearances."

The cases related by our present professor of surgery (whose opinion we venerate, and whose talents we view with admiration) all tend to establish it as constitutional. "The case of a lady who from her husband having failed in business had a thousand ulcers on her skin of a cancerous disposition; after which the womb became affected and she died. The case of a man who from grief had them all over his skin. Some men of strong ambition, in consequence of disappointment become affected with cancer. Thus Buonaparte during his exile on the island of St. Helena died of cancer; for upon examination after death the cardiac orifice of the stomach was found ulcerated."

"It is still stronger in proof of an hereditary predisposition that various members of the same family have exhibited the same disease either simultaneously or in succession; and that the descendants of those who have been afflicted with it seem to have more frequently suffered from it than others. It is not necessary to advance individual instances in support of these propositions. The same remarks have been made upon a general survey of the disease in most ages; and the doctrine of an hereditary predisposition has, in consequence, descended to us as a result of such remarks from the time of the Greeks and Romans."

"The truth seems to be" says Dr. Good "that cancer, like gout is dependent upon a peculiar diathesis or state of the constitution, which disposes a scirrhous tumour, or any other occasional cause, to produce a cancerous ulceration, and consequently to generate the specific matter of cancer; which matter once absorbed into the system, even though, by a removal of the local affection, and the influence of a healthy habit, it should remain dormant or be kept in subjection, may augment the original predisposition, and transmit a seminium to the future race."

"How far a predisposition to cancer, whether original or derived, may manifest itself by external signs, I am not able to determine. It is perhaps generally visible in those that affect the mind; but far less so in those that affect the body. In phthisis, the predominant diathesis has a striking exterior; in scrophula, the outward and visible sign is far less distinct, though such a sign seems to prevail generally: in gout, there is no specific exterior that we can depend upon". Dr. Parr, however, has conceived that cancer has its outward character as well as phthisis, and that it is indelibly marked in the complexion: "for we have found," says he, "cancers more frequent in the dark cadaverous complexions, than in the fairer kind. The complexion we mean is distinct from the darkness of the atrabilious or melancholic habit: a blue tint seems mixed with the brown, and is chiefly conspicuous under the eyes, or in parts usually fair. This may, perhaps, be a refinement without foundation, but we think we have often observed it. There is certainly no constitutional symptom by which it can be predicted, if in women, a scanty and a dark-coloured catamenial discharge be not a prognostic of the future disease. Cancer has certainly been traced in females of the same family."

"In the last two or three cases of cancerous breasts" says Dr. Good "that have occured to me, the patients have been of fair complexion, and

light hair: one of them indeed, peculiarly so. the lady was about fifty, and had had a large family, all of whom were so fair as to make a near approach to the phthisical exterior, tho none of them have ever exhibited its pathognomics

Cancer has also been considered by many practitioners to be contagious but there seems no sufficient grounds for such an opinion. Inoculation has been said to have produced it; but like many other specific acrimonies, it does not act very readily in this way, even if it act at all; for Mr Colbert affirms that he inoculated himself and several of his pupils, without any other effect than that of local inflamation; and that even this did not always ensue. It has been swallowed by dogs with impunity.

The parts most usually affected by cancer are the excretory glands, and especially those that seperate the fluids to be employed in the animal economy, rather than those that secrete the excrementitious parts of the blood. The lymphatics are seldom primarily affected, though they may become tainted from their connexion with cancerous parts. "I never yet" says Mr Pearson "met with an unequivocal proof of a primary cancerous scirrhus in an absorbent gland" and hence we behold a striking difference between the nature of cancer and scrophula. But though the secernent glands are most open to the attack of cancer, any part of the body may become its seat. We meet with it however in females chiefly in the breasts and uterus, and in males chiefly in the testes and glans penis and also in the tongue, stomach, lips, cheeks and angles of the eyes.

"Women are more subject to cancer than men; and in these the mamma and uterus are the organs most predisposed to its influence. Celibacy as well as the cessation of the menses conduces to its production; and hence antiquated maids are mostly affected with it;

and next to them, mothers who have not suckled their own children. Then follow women who are past child bearing. To which we may add, that when cancer occurs in men it is chiefly in the lips, and when in children, in the eyes. The occasional or exciting causes are numerous: but to account for their efficiency, it seems indispensible, as we have already observed, to suppose the existence of a cancerous predisposition or diathesis, since we see the same causes acting in innumerable instances daily, without betraying any tendency to such a result. When this is present it may be produced by an external injury upon any of the parts most susceptible of cancer; by an indurated and chronic tumour incidentally inflamed or irritated: an accumulation of acrid filth in the rugæ of the skin which is a frequent cause of cancer in the testes, particularly among chimney sweepers: the acrimony of an herpetic eruption: a sudden suspension of a periodical hemorrhoidal flux, and a cessation of the menses; and when in the stomach, by a previous life of ebriety or irregular living. With these severe colds seem also to co-operate, as the disease is generally admitted to be both more frequent and more virulent in the high northern latitudes than in the southern regions of Europe."

"When cancer takes place in the breasts, it usually commences with a small indolent tumour that excites little attention. In process of time, this tumour is attended with an itching which is gradually exchanged for a pricking, a shooting, and at length a lancinating pain; a sense of burning and a livid discolouration of the skin. Adhesive bands are now formed in the integuments which become puckered, while the nipple is drawn inwards by suction, and in some instances completely disappears; the tumour rises higher toward the surface, and feels knotty to the finger;

at the same time that the subcutaneous vessels are distended with blood and show themselves in dark cancriform varices - The march of the disease may be slow or rapid, for it varies considerably in its pace; but at length the integuments give way in a few points to the ulcerative process, and a small quantity of caustic ichor, or of lymphatic fluid tinged with blood from the eroded vessels, is thrown forth with short and deceitful relief: the ulcerative process in the mean time advancing and spreading wider and deeper, till a considerable extent of surface becomes exposed with a discharge of a peculiar and most offensive sanies - Then again the ulcer sometimes affords a delusive hope of recovery by its granulating; but the granulations are soft and spongy, and not unfrequently bleed from the loose texture of the new vessels, or their erosion by the cancerous matter - It is rarely, moreover, that they extend over the entire surface of the sore; for more generally while one part is covered with them another is sloughing, and each of the parts runs alternately into the action of the other; and not unfrequently the lymphatics become affected as high up as the axilla, and in their course betray a few small tumours - But whether this is a mere result of contiguous sympathy or of cancerous taint is uncertain - When the disease has spread widely or continued long, some of the muscles of respiration participate in the irritation, and the breathing is performed with difficulty" -

Cancer is said in a few instances to have terminated spontaneously - De Haen gives us one example of this: and Parr affirms that he has seen six cases of the same in his own practice - But he adds in proof of its being a constitutional affection, that in every case the cure was followed by some other disease,

as an enteritis, fixed pains in the limbs, a sciatica, or an apoplexy."

"In general however, a cure is rarely effected but by the knife or a caustic; yet the progress of the complaint may perhaps be arrested; and we are often able without cutting to render it, at least tolerable, for a series of years - In an early stage of the disease relief may be obtained by topical bleeding, as with leeches; and topical refrigerant applications, as saturnine lotions, or sheet lead as the lining of tea packages - The diet should be limited to the mildest nutriment, and wine be sedulously avoided - At this period indeed, whatever can prevent or lessen inflammation should be seriously studied, and adhered to -

Pontean relates a case cured by rigid abstemiousness alone. the patient taking nothing whatever but water for a period of two months -

"As however the disease advances and assumes more of a chronic character, the activity of the smaller vessels may be gently urged inorder to relieve or prevent congestion - And when the irritation is not great, we may by degrees apply gentle stimulents also externally, and let the saturnine lotion be superseded by the acetated solution of ammonia - Tar water is recommended by Quadrio, or an illination of the surrounding parts with mercurial ointment combined with a small portion of camphor"

"The internal medicines which have been chiefly trusted to for the cure of cancer, are the liquid and unbetatt narcotics and the mineral tonics - the former apparently for the purpose of taking off irritation, and in some instances, correcting the specific acrimony; and the latter for supporting the living power, and thus enabling the system to obtain a triumph over the disease by its own remedial energy -

Of the first class the chief have been the belladonna, and hemlock, and particularly the latter, which appears to have been the most promising. Then are many who advocate for this remedy in the cure of cancer, and equally as many who proscribe its use, for one principle reason, viz: the uncertainty of its effects on the system, and hence the contradictory accounts of its effects which are furnished by different writers. DeHaen asserts that it affords neither cure nor relief of any kind; Bierchen, that it aggravates real cancer, though sometimes serviceable in scrophula; and Lange, that it is altogether inefficacious. Sotherill is friendly to its use; and Bell recommends it both internally and externally, alone or in combination with opium.

"The advocates of the medicine have, doubtless, in some instances, suffered themselves to speak of it in exaggerated terms; and it is highly probable that in others, when it has seemed altogether inefficacious, the hemlock, whether in powder or extract was administered in an imperfect state". Dr. Cullen gives a striking example of this last fact in a lady who, being very particular in the use of this medicine, employed the powder as mostly to be depended on, and weighed out her own doses, beginning with a small quantity at a time and proceeding gradually till she took sixty grains at once. By this period the parcel of her powder was exhausted; and she had derived no beneficial effect. She supplied herself, however, with another parcel, and being warned that different samples were rarely of the same strength she induced her first dose of the new plant to a scruple: yet even this nearly killed her: for in ten or fifteen minutes she was affected with sickness, tremor, giddiness, delirium and convulsions.

happily the sickness proceed to vomiting, and the poison was ejected. But of the fresh supply she was never able to take more than five or six grains at a dose, notwithstanding she had taken sixty grains of the preceding without any mischief.

"Of the metallic oxides that have been brought into use, the only ones it is necessary to notice are those of mercury, iron, and arsenic. The first has been uniformally found mischievous when carried to the extent of salivation. It has more generally been employed as a gentle stimulant or alterant; to this if pain be present should be added a small quantity of opium; at the same time carefully guarding against constipation by any convenient aperient."

Iron has been tried in almost every State of combination, and there is reason to believe that in some of these it has proved beneficial. Dr Denman, in his observations on cancer (page 77) says that he has never found any medicine that possesses the pretention that iron does in this disease.

"Of all the medicines of this class arsenic has acquired the highest and most extensive reputation. It has formed the basis of almost all the secret remedies which have at any time been current, whether external or internal. Of the real effects of arsenic, as of several of the preceding medicines, we labour under great obscurity from the discrepant reports which have been communicated. Le Febure with a host of practioners antecedent to, and contemporary with himself, employed it both externally and internally, and regarded it as a specific. Schneider and Fuotamond declare it to be useless, though the latter employed it locally as an escharotic. Fatal effects may easily be produced, provided a sufficient degree of caution be not employed during its exhibition"

It acts differently on different constitutions, though generally speaking it proves beneficial; and in some cases may produce a radical cure. But more commonly, like the preperations of hemlock and iron, it unfortunately loses its effect as soon as the habit has become accustomed to its influence, and the cancerous taint, or cancerous action, resumes its victorious career. And perhaps the only power that is capable of neutralizing cancer, or keeping it permanently in subjection is the existence of a predominant diathesis of some other kind. How far the remark may have been made antecedently I know not, but from a pretty close attention to the subject within my own sphere of observation, I have been led to conclude that cancer does not often make its attack upon those who are constitutionally subject to gout, and seems to be restrained by its influence".

"The list of external applications is still more numerous than that of internal. We have already glanced at the local treatment before ulceration has taken place. After this period, sedative applications do not succeed, and moderate stimulants alone seem best to afford relief. When the poison was supposed to be of an acid character a solution of the alkalies was employed to correct it. It was after wards conceived to be of an alkaline nature, and various acids were used. But poultices of carrots or charcoal have of late years been in more general use. All these have a considerable influence in correcting the offensive fetor, and keeping the sore clean; but whether they go beyond this has been doubted. Yet even this is of great importance, since such an effect must necessarily give some check to the spread of the ulceration and afford solace to the patient, and probably improve the nature of the discharge itself. And hence many writers have been sanguine enough to expect an entire cure from such processes.

"Fomentations of hemlock and various other narcotics have been also used; and sometimes tepid baths of the same in which the patient has been ordered to sit for twenty minutes at a time. One of the best detergents appears to be arsenic finely levigated and sufficiently reduced in strength by an union with calamine or some other ingredient. It is also one of the best caustics, in a simple or more concentrated state, and was freely employed as such by Mr. Justamond.

"We have already observed that sheets of lead among other preperations of this metal were applied to the cancer, and bound over it with some degree of force. But a pressure of a much severer kind together with the use of the same metalic sheeting has of late years been employed by Mr. Young and apparently with a very salutary effect, so far as relates to checking the spread of the disease, a diminution of the tumour, and an improvement of the nature of the discharge.

"After all when the cancerous character of the tumour is once decidedly established, there is little dependence to be placed upon any plan but that of extirpation by a caustic or knife.

"Even this remedy, however, can only apply to exterior organs. In all other instances the practice is melancholy from the beginning. The die is cast almost, if not altogether irrecovably; and all we can hope to accomplish is to postpone the fatal result, to mitigate the sufferings of the day and soften the harsh passage to the tomb."

Quaedam

de Tetano vulneribus oriente,

Sive

Tentamen Inaugurale,

quod

examini Rev. Episc. Kemp D. D.

nec non

Rectorum et Facultatis Medicae

in Universitate Terrae Marianae,

pro gradu M. D.

Subjecit

Levi C. Cordell,

Virginiae civis.

Nullum est jam dictum, quod non dictum prius.

Terentius.

MDCCCXXV.

Prefatio.

Nullo non tempore extiterunt illi, qui cuivis mortali esse ingenium proprium sibi existimaverunt, equidem et tertatur quotidiana experientia, quod eorum opinio bene sustentetur. Ejusdem quoque est sententiae Virgilius, qui, clarus felici carmine, olim ita scripsit, *non omnia possumus omnes*.

Si igitur ita res se habet, fortasse cavendum est, ne, quod facere ne fas est, moliamur. Itaque hoc verum in memoria tenens, tractare in hac dissertatione proposui morbum, qui etiamsi non levis momenti et certe cura medicorum dignissimus sit, tamen tendere argumentum facile tractu, mihi videtur. Ceterum monendum est, quod mihi sit solum desiderium in his captis, cura fideli exequi

nostrae mandata Universitatis. Dicere enim me oportet, ut in presenti exercere calamum in rebus ad medicinam pertinentibus non sponte anderem: non quidem si mihi sunt summae facultates et quoque satis temporis.

Quaedam

de Tetano vulneribus orienti.

Tetanus traumaticus subinde multis in regionibus, sed frequentius et quidem maxime in locis aequatori proximis; quorum aer in menses aestivos calidissimus est et in hiemem parum frigidus, apparet.

Utrisque in Indiis malum frequentis, ibique profecto tenibilem et maxime lethalem se praebuit.

Ex hoc, proclivitatem morbo ab actione caloris in corpus humanum derivari probe arbitiemur.

Quae verum sit natura causis excitantibus, verbo "traumatico" facile noscitur. Varietas autem est magna illorum vulnerum, quae hunc morbum possunt producere a maximis, laceratis, contusis vel incisis ad minimam puncturam usque. Ac annales medicinae quidem demonstrant aut vulnus exiguum aciecula factum aut injuriam levem vitrei frustulo aut ligni aspula, saepe solam fuisse causam. Aliqui medici et certe non pauci opinantur, ut plaga in aponeurose sit causa frequentissima.

Verum enimvero credo, hanc sententiam fulcimen non habere solidum et mihi consentit Prof. J. B. Davidge, si fallor. Notum est omnibus, quam insensiles sine inflammatione tendones sint. Qui tunc possimus de illis subito

nascentibus, veram reddere rationem? Me judice, equidem nos credere lacinem nervi esse causam frequentissimam, magis decet.

Quae vero sit pathologia hujus morbi, quidem adhuc nescimus. Necesse est tamen dicere, paucos medicos, quibusdam post mortem investigationibus, in quibus velamina medullae spinalis inflammata esse invenierunt, ut hic semper videre proximam morbi sedem posimus, inductos esse credere. De hac re autem antequam ad pathologiam instituendam pro certo adveniemus, aliae quidem dissectiones, et plusquam minutae, sunt necessariae.

Symptomata hujus varietatis causam non sequuntur tam veloces, quam in alia: nonnunquam enim octo, decem, vel plures dies ante praeterierunt quam indicium Tetani exiguissimum vidimus, et saepe non donec post vulneris cicatrizationem.

Plerumque in musculis cervicis primum molestiae indicium aeger sentiscit et quod esse aliquid Rheumatismi ille falso putat. Hoc in initio, consociatum incommodo parvo, magis ac magis crescit et jam maxillaria cum molestia, quidem ac non sine dolore separanda. Aliquid iticlem dysphagiae cito apparere. Cum his post non longum tempus est tractio dolorosa, quae thoracem sublinde transfigit, a cordis scrobiculo ad vertebras usque penetrans, aliaque signa augescens. Hic spasmus sub cartilagine ensiformi ipse etiam augetur et merito signum pathognomonicum vocatus est. Nunc sequitur multitudo contractionum ad musculos pertinentium, qua ferme sine intermissione aeger cruciatur. Maxillaria jam firmissime obsepta fiunt, et conatus aegri potentissimus ad ea distrahenda nihil valet. Lingua etiam torpida rigidaque fit, tametsi parum aspera aut discolorata, nisi febris, quae

in hoc morbo est rarissima. Respiratio in paroxysmum frequens et difficilis: facies plurimum anxietatis et moeroris exhibet, et interdum sardonici formam risus. Saepe dysphagiae tantum augetur ut ei nomen hydrophobiae proprie efset. Pulsus quoque parvus ac regulae non consentaneus; caeterum frequens ac celer spasmorum violentia fit. Oculi manent immoti; et semper abdominis parietes in malo sunt implicati, qui ad tactum duri et nodosi videntur. Ad extremum animi facultates plerumque sunt integrae, quo tempore convulsiones saepe finem tragicum affecunt. Per omnem morbi cursum dejectio faecum nulla vel rara, nisi data sint medicamenta, quae ad purgandum idonea sunt, eorum que quantitas solito major necesse est.

Ex numero violentiae que spasmorum et quoque

viribus aegri, prognosis deducendus est. Quapropter, musculorum rigiditate permagna et universali, in die secundo vel tertio saepe moritur: miti autem et partiali, mors interdum non accidit ad hebdomadae finem usque, saepius vero multum post hoc. Revera et reditum ad sanum, die quarto jam peracto, esse certissimum ratus est Hippocrates. De hac re autem, ejus verba sunt, Qui a tetano corripiuntur, in quatuor diebus pereunt. Si vero hos effugerint, sani fiunt. Profecto autem non desunt, quae satis demonstrant malum hanc ad finem fatalem perductum fuisse "longo post tempore".

His igitur perspectis, quae ad curam pertinent, jam sunt considerandae. Ex signis vero "consilium medendi" recte deduci potest, quae et necessitatem vehementer agendi contra illam corporis irritabilitatem ex qua praesertim pendere Tetanus videtur, nobis indicant. Certe et haec fuit

conditio, quae proclivitatem morbo in initio constituit, ut supra diximus. Imprimis vero optatet quamlibet irritationis causam auferri, namque semper est bene vetus proverbium observare: nempe, causa sublata, tollitur effectus. Itaque nervo laeso, eum dividere jubetur. Proponitur vero quibusdam ad curandum, in vulnere, medicamentis escharoticis vel stimulantibus, novam inflammationem excitare.

Larrey, chirurgus celeber, autem usum cauterii commendavit, postea quo promovere suppurationem hortatus est in vulnere: alii vero cauterio causticum lunare antetponunt.

Medicus Darwin, linamento in spiritu terebinthinae madefacto, quod ad sedem injuriae adhibendum est, ibique inflammationem ciere suggessit. Atqui nos decet in mentem revocare, quod ac multa experientia probavit, nullum praesens medium qui ad vulnus solum spectat, ad

producendam sanitatem futurum sit. Ac omnia ante remedia interna opium est habendum, quandoquidem hoc 'magnum dei donum' saepius respondit quam alia. Hujus vero potiones et magnae et saepe repetitae imperiose postulantur, quum dosis communis in tetano nullum habet effectum. Ac quidem quantitas, quae in rebus ita se habentibus sumpta in die uno, incredibilis est. Quoniam vero tincturae opii majus in aequo celeritatis, ea ante opium solidum est habenda, hac tamen exceptione, ut usus nulla re interdictus sit. Si satis per os adhiberi non potest, uti ea in clysteribus non solum fas est, sed quoque oportet. —

Porro externus opii usus commendatus, atque ut, sic adhibitum, commodum afferre effectum possit, sincere credimus. Nam est medicamentum, quod ac simul ventriculum contingit, effectum etiam in dispositis partibus ex-

erit'. Deinceps agens in nervos partis, ad quam sit applicatum, opium, cum externe utitur, impressionem propriam in eatis nervos, qui ita abundant, certissime faciet. Equidem in spasmis et doloribus ita gravibus, quodcunque, ex quo minimum beneficii sperari potest, nos oportet tentare.

Plurima remedia alia, quae stimulandi facultatem possident, medici subinde prescribere solent, sed proximum opio stat vinum, quod in quantitate permagna bibendum est et tempore eodem cum priore. Vinum etiam solum dicitur curationem effecisse, ubi alia frigida inutilia videntur et quidem cum cortice peruviano adhibetum. Med. Rush plurimum laudavit. Valde et mihi placet, exemplum, quo haec duo remedia, id est dicere, opium vinumque ad curandum satis fuerunt, commemorare. Aeger aetatem 45 ingressus, Junio mense, equo degesta est, quo multus mal-

lesionem externam denudantem recepit. Partes dilaceratae coaptatae et emplastro adhesivo conservatae sunt tam aeque, in statu quo, quam fieri potuit. Injuria tamen tanta erat, quod adhesio, primo processu, inter partes non evenichat: contra autem vulnus ad suppurationem ibat. Cataplasmata jam adhibita: nullae verum granulationes sanae apparere, sunguis enim per omnem vulneris superficiem cepit orivi, quam ad delendum escharoticae utilia visa sunt. Attamen sub secundae finis hebdomadae indicia tetani sese exhibere et quae ultimo formam horrendam visu assumpserunt. Hic etiam praecipue visus est ille in cordis scrobiculo dolor, quem proprium esse tetano creditur. Opii jam vinique quantitates, in utilitate magnae sunt prescriptae, et quoque remediis idoneis subinde alvus soluta est. Post paucos dies indicium quodlibet morbi prorsus evanuit et exinde cito vulnus omnino

conglutinatum est.

Inter plurima in hoc morbo remedia, quae alio aliove tempore laudibus elata sunt, non praetereundus est Hydrargyrus, quo, etiamsi hîc quibus laudatur et illis culpatur, nihilominus in multis morbis, medicina nulla majora admirationis signa videtur. Me vero judicente, in alia tetani varietate prescribere hydrargyrum melius est, in hac, quam nostrae argumentum dissertationis selegimus: nunquam mihi videretur si non perniciosus, saltem inutilis.

Res postulat ut panca de balneo frigido nunc dicerem, cui certissima esset gradus inter remedia pro tetano plurimum altior hydrargyro, et equidem de ejus utilitate dubitari non potest. Hoc vero certum est, vim in se roborantem balneum frigidum habere, qua corpori humano

det vigorem: quin et impressionem imprimis subitaneam
fatemque facit. Hinc et quidem prodesse in hoc malo
videretur, et jam bene notum est, medicos in Jamaica
aliisque insulis vicinis prescribere cum beneficio hunc re-
medium in tractatione hujus morbi, frequentissime solere.

Transimus jam ad vericatoria, quae seeus spi-
nam imposita creditur illis qui opinionem medullae
spinalis inflammatae habent, ut illa sint remedia
utilia: forsan et aliis admodum adjuvent. Nec de-
sunt exempla, ubi vericatoria minimum profuisse, si
paucis medicis damus tutè fidem, visa sunt.

De amputatione, injuria prima membro inflicta,
nunc non disseremus. Sat est mere dicere, experientia
probatum esse, ut nullum beneficii, dolore in epigastrio
jam exorto, a membrum deserendo sperari possit.

Restat jam itaque, ut de praecavendo tetanuno paulis-
per dicatur. Nec potest effici melius, quam modum
memorare, quem in ejus praelectionibus de materia med-
ica Prof. Baker suggessit. Consistit in hoc, nempe, in
adhibendo opiuno, cum primum apparebit minimum
spasmi indicii: quidem et hujusmodi profilactatam
praxeos probatum fuisse, duobus exemplis, ille vidit.
Nonnunquam aetate accidit manum, cubitum vel
pedem plurimum contusum esse, cum quaestio sit, an non
membrum ita contusum amputari debet? Demum
attegimus ultimum laborum terminum in praesenti, ad
quem, gradibus grandibus, provenimus

Professores medici in academia Marylandiae.

Accipite, viri perillustres, mea vota sincerissima ut
vos Deus quam diutissime servet salvos, beatos et flo-
rentes.

Dissertatio Inauguralis

De

Gastritide, præcipue encephalo in morbis, ligando.

Quam

ex auctoritate reverendi admodum viri,

Jacobi Kemp S.S.T.P. Academiæ

Terræ Mariæ Præfecti,

NEC NON

nobilissimæ Facultatis Medicæ *decreto.*

Pro Doctoris *gradu*

Summisque in medicina honoribus ac privilegiis rite et legitimè consequendis,

Eruditorum examini, subjicit

Robertus T. Musgrave,

A. D.

Baltimoriensi.

1825

Samuli K Jennings. A.M.M.D.

Artem Salutiferam feliciter exercenti,

Medico perito, prudenti,

Viro

Ingenio, doctrina, virtutibus

Praestanti;

Ob beneficia vere patrina,

sibi considerate constanterque delata

hocce tentamen inaugurale,

summa quidem observantia,

gratique animi testimonium,

libens offert

Auctor.

Dissertatio Inauguralis &c &c

"Satius est anceps auxilium experiri
quam nullum". Celsus.

Cum historiam medicinæ atque chirurgiæ, ut ab antiquis excultæ, spectemus; et inveniamus omnia medicamenta, etiam hoc die, omne malum mederi, quam inefficacia sunt; nobis deplorandæ parva progressio quæ, in arte medendi, facta est. Cum autem altera ex parte ad inventa, quibus scientia nuper locupleta est, et utilia additamenta ex eis nascentia oculos convertamus; ingenia et perseverantiam eorum

rum qui tam secundi fuere veneramur, et ad-
huc exitum etiam magis felicioren speramus.
Non est jamdiudum cum usus arterias ligan-
di in aneurismis inductus est; et paucos abhinc
annos, Gulielmus Hunter chirurgorum eruditissimo-
rum Europæ, arteriam humeralem in plica bra-
chii aneurisma ausum ligandi voluit. Non igitur
miradum est, ut putaret præclarus vir Joannes
Bell, Carotidibus, in aliqua re, accessum non
praberi. Sed enim, post non multo, vidit et ipse,
hoc magnum ausum prospere gestum; et hodie non
illum trepidationem injicit, aut metu percellit. Ergo
cum necesse sit, oportet nos paratos esse, huic arteria
sicut illi alteri, sine trepidatione accedere. Hanc

arteriam Ashley Cooper, A. D 1805 in aneurisma, primùm deligavit. Neque nobis causa est credere, ex hac operatione ullum aliud bonum, nisi in aneurisma, eo tempore expectari. Postea tamen factus est ususs tam latè diffusus, in alios morbos, qui infra tractandi sunt, ut in maximos et utilissimos profectus chirurgiæ recentioris æstimandus est. Fungus Hæmatodes tam frequenter obveniens in Antrum Highmorianum, et tam certe fataliter terminans, excitari coegit, quonam modo potissimùm hoc malum exterminaretur. Morbus ut olim specificus haberetur, extirpatio partis totius affectæ necessaria putabatur. Quó id efficerent, modis sævissimis, scalpello, scalpro, malleo, et ferro calido, uti solebant: etiam hæc

capissimé nihil valuerunt, et morbus vi aucta
progressus est. De his causis, anxia et solicita chi-
rurgi mens fuit; et paucissimi, qui dolores cruciatos et
spes exiguas exitus boni cognoscerent, tam ancipiti per-
iculo se submitterent. Quid-ergo magis desiderandum
fuit, quám aliquem modum inveniri, qui non solúm
hoc horrendum malum delere posset, sed etiam neces-
sitatem more tam inhumano utendi, impediret. Non
parvum honoris civitati ac gloriæ Academiæ Terræ
Mariæ additur; cum consideremus hanc tam praela-
tam ac tam novam rationem Baltimoriensi comper-
tam fuisse.

Morbus in Ægro sub cura H. G Jamison M.D.
A.D. 1820, se ostendit. Ille secúndum præscriptum

tum constitutum, et quod supra memoravi, operationem cepit; imprimis arteriam carotidam, lateris affecti, ligatus; credens, ut ait "That he should not only obviate the risk of hemorhage but thereby lessen in a great degree the risk of reproduction which has hitherto been so apaling in such cases." * Hujusce periculi exitus tam feliciùs omnium expectatione evenit, ut multum apud medicos disputationem moverit. Visus est ager erudito Professore Davidge, cujus menti praecellenti, indagationi indefessa et perceptioni subtili, scientia et precipue medicina multa inventa magni momenti jam debuerat. Ipse, alumnis prasentibus, hanc novam ac praclaram sententiam ~~[illegible]~~ et qua postea corroborata, ausus est

* Vid. Medical Recorder. Vol. 4 No. 14

proferre; Primò; hunc morbum nullam naturam specificam possidere; secundò, cum tumoribus similem ullius alius classis, sanguinis copia diminuta, posse mederi. Secundùm haec consilia, unam solùm ~~[illegible]~~ carotidum, et si id non valuerit, etiam ambas ligare monuit. Si talis ratio, viginti abhinc annos, commendata fuisset, sine dubio undique violenter oppugnata fuisset; et plurimi eam periculosam et audacem putavissent. Illud saepissimè feliciter actum fuisse, neminem latet; hoc etiam factum fuisse adolescente, qui tum ei sermoni interfuit. vulgatum est: et casus nunc valet.

Tametsi hoc facinus praeclarissimum chirurgiae recentioris, quoàd huic soli malo pertineat, contem-

plemur;

plenior; tamen mihi videtur multo majora bene-
ficia ex hoc periculo posse deduci. Quanam sint,
quam paucissimis, investigabo.

Nescio quod in encephali affectibus unquam
cogitatum esset: eos, in quibus nimium viget san-
guinis, se curari posse, credo. Nam, ut nominem
latet, [redacted] carotides, his partibus tam ingentem
sanguinis copiam suppeditantes, in earum morbos
magnum dominium exercent. Quinetiam textura ea-
rum vasibus plena, cum vita animali tam proxime
conjuncta est; quod in morbis hujusce ordinis abun-
de sanguinem detrahere nos oportet. Equidem sa-
pissime deplorandum est, satis non posse sangui-
nis amitti, vita adhuc manente, partes exitio liberare

Physiologia peritis astimatum est, ut sanguinis totius corporis pars quinta in caput missa sit. ~~tertia~~ Carotides communes vertebralibus quadruplo majores sunt: Carotides interna cum arteriis mediis dura matris, duplo majorem vertebralibus sanguinis multitudinem, in cerebrum important. Hae ipse, quod corpus totum libras triginta sanguinis continent; sex cerebrum recipiet. Una carotidum obstricta, supplementi pars tertia encephali remota fuerit,* vi cordis minime diminuta. Hoc efficere modis usitatis deplendi tertiam partem sanguinis totius corporis detrahere necesse esset; si quidem ullo modo tantum damni sanguinis corpus sustinere posset. Equidem sapissime depletio et reactio + et impetus triens, quem reactio renovare non posset.

alternatæ sunt; donec ager exinanitione vel morbo deletus fuerit. Simul ac utilitatem facimus, sanguinem suppeditam per unam carotidum removendo; variatis modis deplendi multum juvare licebit. Una carotidum deligata et morbo progrediente, ambas ligare nos oportebit. Arteria vertebrales circulationem per cerebrum continuare sufficient; et arteriis, thyroidea inferiori, profunda cervicali, et cervicali superficiali, ramis subclaviana adjunctis; quæ, thyroidea superiori, pharyngea, occipitali & ramis carotidis externa communicant. His objectum sit, quòd arteria vertebrales et ha communicantes dilatata tantum sanguinis, ut antea, importarent. Sit ita sane; ut in vitula, cervo

et ore &c; cautum esset, quorum carotides in plurimos ramos dividuntur, et iterum conjunguntur: ita cum his communicantibus, impetus magnè comminutus foret.

Apoplexia ipsius natura in opprobria medicorum semper habita est; et morborum omnium exitiosissimus videtur. Nam, etiam hoc die, quùm ars et studium medicinæ tam diligenter cultum sit; verbis præclari Boerhavii uti licet, "At si illa ipsa jam facta est, vix ulla spes superest."* Nam simul atque aggressa est, rarissimè captum dimittet; sed oppugnationibus iteratis operam perficit. In paucis, fortuna sic faveat, eventum horrendum protrahi posse.

* § 1031

Hujus morbi pathologia diu disputata est. Sed etiam ab antiquis satis bene intellecta fuit, modum idoneum curandi indicare; ni disciplina manicis pathologia humoralis dominata fuisset; ut plane de sequente apparet. "si vena in caput supervenuerint sanguinem, dolor brevis totum caput detinet et ad cervicem interdumque ad alias partes transmittit; deinde ubi surrexerit, eum tenebricosa vertigo occupat. Febris autem non prehendit."* et secundum cognitiones obscuras anatomicas tum habitas "rutum capitis discindi jussit, ut sanguis exiret, sicque plenitudo imminueretur." Sententia Eutropii historici Romani hominionem ejus temporis indicat. "Subito sanguine

* Hippocrates. de morbis Lib. II. cap 6.

ictus, causæ morbi quem Græci ἀποπληξίν vocant." *Boerhavius ait, "hunc morbum accidisse quoties illæ præcessæ essent causæ, quæ potuerint impedire integre vel multum affluxum liquidi cerebrosi spirituosi in organa sensuum motuumque voluntariorum, suprestita interim cerebellosi liquoris in cor, et naturalia organa respirationis, itu, et forsitan reditu, aliquo, qui ad has functiones sustinendas quodammodo sufficeat." † Credens et Gallenus "Ipsum cerebrum sensorium organum a natura factum non est, sed sensoriorum sensorium." Ille causam dat, "omnia quæ vasa interioris cerebri involverunt, ut exiens liquor aggestus, suo compressu, tornicatas cerebrorum nervorum origines laedat."

Lib. VIII. § 12. † § 1009

Talia sunt, sanguis in plethoricis &c.* laudabilibus tantis prospectis, et facies quibus sustinentur; arduum est dicere; quomodo illustrissimi nosologi ordine neurosum collocauissent; et celeberrimi medici etiam hodie cum eis consentiunt. Nam experientia ~~experientia~~ docuit, quod, in hoc morbo abundanter sanguinem amittere necesse sit; et nouere antiqui quanti valuit hoc remedium; sed corpus magnopere debilitatum usum interdicere visum est. "Fieri tamen potest, ut morbus quidem id desideret, corpus autem vix pati posse videatur: sed si nullum tamen apparet aliud auxilium, periculosque sit, qui laborat, nisi temeraria quoque via fuerit adjutus; in hoc statu, boni medici est

* § 1010

ostendere, quàm nulla spes sine sanguinis detractione sit: saluteque quantus in hac ipsa re modus sit: et tum demum, si exigatur sanguinem mittere. Satius est enim anceps auxilium experiri quam nullum." et alio loco "Si omnia membra vehementer resoluta sunt, sanguinis detractio vel occidit vel liberat." †omnes, sanguinis de proximis detractionem multùm valere, cognouti sunt. Sed de vasibus quæ plurimùm successus producerent, non consentiebant. Dum alii venam asternam jugule, alii vasa nasi interna, alii arteriam temporalem commendarent; alteri cognoscentes quàm inefficaces hi modi fuerint, (quia hæc vasa cum internis nequaquam communicant) totam fiduciam in

Lib II cap 10. † Lib III cap 27.

depletione generali reposuere. Ex quo supra memoravi, manifestè apparebit, nullum aliud vas cum sede morbi tam proximè communicare, nec tantùm promittere, quantùm ~~[illegible]~~ carotides. Nam reverà nulla spes superent, nisi circulatio sic imperari;— ut cerebrum extravasationi se aptare, et vasa vires eorum renovare possint. Nihil operationem prohibet; sed enim contrà, conditio ægri imperiosè postularet. Equidem callemus, quasdam apoplexiæ species esse, in quibus homo, puncto temporis, deletur, nulla occasione præbita, hunc aut ullum alium modum experiri. In quo casu, dissectiones Valsalvæ Morgagni, et aliorum illustrium anatomicorum consulendo, perspectum erit; quòd in cerebellum

extravasatio fit. Altera species fiat, in qua extravasatio in vaginam medullæ spinalis facta est, et in cerebellum diffluit.* Ubicunque nobis interponere licuit, causa morbi in cerebro existente, nostris conatibus aderit; namque carotides in hanc partem capitis præcipue dividuntur. Apoplexia accessus, quadam conformatione corporis, et quibusdam præmonitoriis symptomatibus, prædictus sit. Si hoc remedium, in apoplexia jam facta, multùm juvaret; profidendum est igitur, illud, morbi inita initia, plurimùm posse.

Aliquando, in Phrenitide accidit, præcipue in æstate, vim cordis venæsectione non satis cohiberi

*Vid. Morgagni. de caus. et sed. morb. epist. III. cap. 3.

posse, et medicus denium agnum morte resignare coactus est. Res, quibus Professor Mott arterias partibus inflammatis suppeditantes tam prospiere' ligavit, principium sanserunt.* Ex cerebri mobilia atque momento, inflammationes difficiles curandi, et graviorem exitum implicantes, nobis expectanda sunt. Igitur aer non licuat, modo tam potenti in hoc morbo uti, quám membrum inflammatione sive morte servare. Donic modi usitati desecerint, operatione hac uti non licebit, et in hoc gradu morbi, non plus irritationis creabit, quám vesicatorium, quod sapissimé et utilissimé' applicatur.

Quæ de apoplexia et phrenitide observata sunt,

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quidem in puris collectiones ex in externa, in quibus Percl Pott calvariam terebra perforare solebat, tum etiam in hydrocephalum applicentur. Namque, seu hic morbus, auctæ seu vis diminuta arteriarum esset; principium aque constat.

Epilepsia causa remota tam obscura est, ut de ea non certe dicere possumus. Sed vis auctæ arteriarum plerumque in causis excitantibus putatur. Expectandum est, ut, numero canalium diminuto, causa excitans plurimum obstita esset. Utcunque cadat, hoc experimentum utile foret, et malum eventum habere non posset.

Sive mania morbida affectione arteriarum cerebri, secundum sententiam illustris Doctoris

Rush. necne, causata sit; certum est, ut arteria valdè compatiuntur, et mihi videtur quòd haec operatio benè eveniret.

Postremò satis constat, omnes hos morbos ægerrimè medicabiles, et antea in opprobria medicorum habitos, esse. Quinetiam quotidiè experientia docemur, hanc operationem non periculosam, sedenim contra, tutam et innocuam esse: Ergo si nullum bonum ex eo, certo certius est, nullum malum oriretur.