

A treatise on bowel complaints: intended for the use of physicians, families, parents, masters of vessels etc. in the United States / By John G. Vought.

Contributors

Vought, John G. (John Graff), 1791-1832.

Publication/Creation

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TREATISE

ON

BOWEL COMPLAINTS:

INTENDED FOR THE USE OF

PHYSICIANS, FAMILIES, PARENTS, MASTERS OF VES-
SELS, &c. IN THE UNITED STATES.

BY JOHN G. VOUGHT,

PHYSICIAN AND CITIZEN OF ROCHESTER, MONROE COUNTY, N. Y.

ROCHESTER, N. Y.

PRINTED FOR THE AUTHOR, BY E. PECK & CO.

1823.

NORTHERN DISTRICT OF } TO WIT:
NEW-YORK,



BE IT REMEMBERED, That on the ninth day of April, in the forty-seventh year of the Independence of the United States of America, A. D. 1823; JOHN G. VOUGHT, of the said District, has deposited in this office the title of a Book, the right whereof he claims as author, in the words following, to wit: "A Treatise on Bowel Complaints; intended for the use of Physicians, Families, Parents, Masters of Vessels, &c. in the United States. By John G. Vought, Physician and citizen of Rochester, Monroe county, New-York."

In conformity to the act of the Congress of the United States, entitled "An act for the encouragement of learning, by securing the copies of Maps, Charts, and Books, to the authors and proprietors of such copies, during the times therein mentioned;" and also, to the act entitled "An act supplementary to an act entitled 'An act for the encouragement of learning, by securing the copies of Maps, Charts, and Books, to the authors and proprietors of such copies, during the times therein mentioned,' and extending the benefits thereof to the arts of Designing, Engraving and Etching historical and other prints."

R. R. LANSING,
Clerk of the Northern District of New-York.



TO
THE MEDICAL SUBSCRIBERS TO THIS WORK, THE FOLLOWING
PAGES ARE RESPECTFULLY DEDICATED.

THINK not, gentlemen, that I anticipate your general approbation of the principal matter and composition of this work, as I am convinced of my inability to do justice to, and intend not to claim merit for an undertaking of this kind. The medical encouragement that I have already met with, has far exceeded my most distant expectations. Surely it cannot be supposed that motives of interest were in view by my senior subscribers, Drs. Hosack, Mitchill, and others of the same stamp, who enjoy superior natural medical talents, and who have had every opportunity of cultivating those talents, by a long and extensive practice, after a scientific and collegiate education; who have also been long engaged in extensive reading, and in the investigation of every discovery and improvement in the science of medicine, that would prove an advantage to mankind, and who are designed, by nature herself, to shine as bright stars in the firmament of their profession. They will not expect to receive any new ideas, or any useful matter, from the observations of a youth of my age, planted, as I am, in the obscure wilderness of Rochester, where, ten years ago, scarce a cultivated acre of ground could be found within some miles; which is distant at present from any city, in the United States, more than two hundred miles, and which is remote, also, from scientific institutions. I can, therefore, only attribute their inclina-

tion to afford me encouragement, to a generous disposition they possess, to bestow their aid, not only upon those around them, who are abundantly qualified for writing, and for diffusing medical knowledge, but upon those also, who reside in remote situations, and who are willing to make some efforts to spread the scientific principles of medicine in distant and obscure places; and also, in places where the light of many valuable theories are still involved in clouds and darkness.

To my younger class of subscribers, and those who have had still fewer opportunities than the author, more self-interested motives may be expected for their encouragement of this work. As bowel complaints have been very prevalent, of late years, in many parts of the United States, in certain seasons, and as they have, in many instances, baffled the skill of some of our most distinguished physicians, and proved fatal to many of the unfortunate sufferers, who chanced to have become subjects of this affection; and as this work is written on the express subject of bowel complaints, one more opinion respecting the nature, cause and treatment of those complaints, would reasonably be expected to be added to the number of those already expressed. It might, therefore, induce young practitioners, not only to exercise their own imaginations, but to search the numerous medical publications and scientific authorities, either for the purpose of refuting or substantiating the opinion already advanced, and consequently enable them to make up a more correct and decided opinion for themselves. This may, in some respects, prove an advantage to their education and profession, and which, going one step farther, may prove a benefit to the invalids they may have under their charge. Truth will not suffer, but will gain by investigation. The subject before you, gentlemen, has gained much by investigation, and much more is still to be gained by a continuation of it.

I do not expect to escape the charge of inaccuracy, nor the voice of reproach, for assuming to undertake a work of this kind. I am more aware of my want of abilities necessary to execute this task with correctness and propriety, than when I first commenced it: and as my former transactions have been viewed, by some individuals of the profession, with an eye of envy, hatred and malice, I am fully resigned to see this work meet with the same fate.

I can have no reason to expect that individuals will consult my pecuniary interest, and surely they cannot expect that I will particularly consult theirs; although I feel perfectly willing to hold to the evangelical rule of treating them as I wish myself to be treated by them. I have always esteemed that person my best friend, who would point out to me my faults and capital errors; and should my speculative views in this work prove to be particularly erroneous, I shall accordingly consider him my most worthy friend, who may first convince me wherein my error lies.

Let it be remembered that this work is not only written for the use of physicians, but also that of parents, nurses, &c.

I have endeavoured to simplify this work, and also the prescriptions, as much as was consistent. I have paid no particular attention to nosological arrangements of diseases, nor to the many causes and names which have by some authors been assigned to them; such as primary, predisposing, proximate or exciting causes, &c. I have mostly confined myself to the nature of that substance which operates in the system, as the exciting cause of bowel complaints in general; and I have in a measure discarded all other causes, as of but little or no use to community at large.

Medicinal and philosophical terms have been, so far as was consistent with the principles of the work, particularly avoided. The anatomy of the parts affected in those complaints are omitted, for various reasons, viz: It would occupy several pages, and considerably increase the expense of the work. It would be a recapitulation of such matter as all physicians are already in possession of, and do not wish again to pay for; and it would be considered uninteresting, and of little or no use to those who are not physicians, as they could not correctly understand this part without a knowledge of the anatomy of the whole human body: they therefore would not wish to pay an extra price for its insertion.

Respecting the similarity or sameness of cause of the diseases mentioned, to many it may appear improbable and erroneous; but in my view I consider it an important path in medical science. I earnestly desire a thorough investigation of this subject. If my opinions are unfounded, I have hazarded them by a public declaration, and am open to conviction; and if they be just, I would wish to see them more fully elucidated and confirmed by a more capable pen. My views can only be answered by the talents and attention of some of my medical subscribers, who are philosophers, as the magnitude of such a task, a mere physician like myself is wholly incompetent to perform. To you, gentlemen, therefore, this work is more particularly dedicated: to your perusal, your consideration, and your liberality, it is freely submitted: your decision, I trust, will be made upon calm deliberation and conviction, and not be governed by the cry of impassioned prejudice.

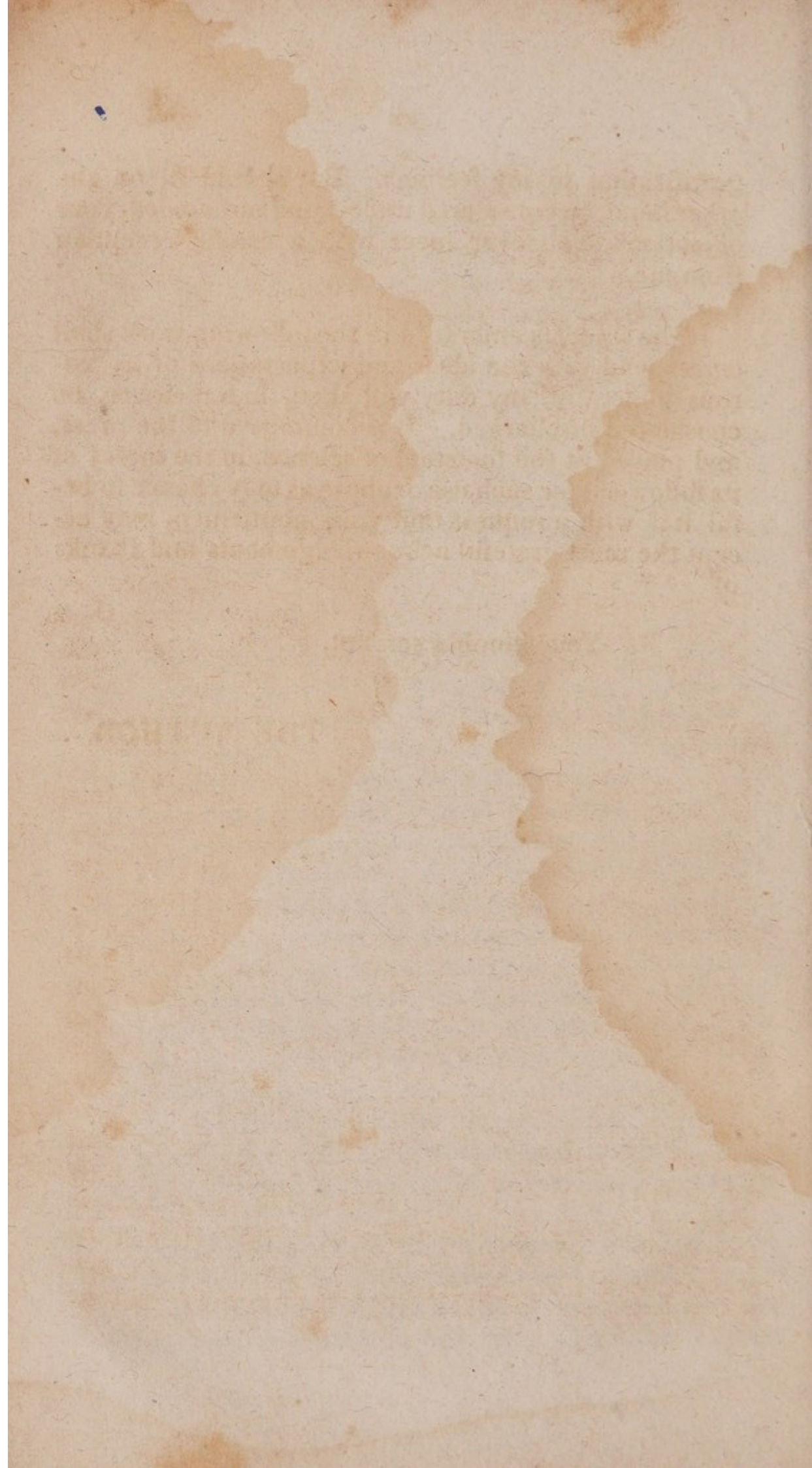
Should this work, or the principles contained in it, correspond with the enlightened views of such competent and impartial judges as the gentlemen I now address, your approbation will truly afford the highest

gratification to my feelings. But should it, on the other hand, be considered useless and unfounded, your objections shall ever meet with a candid reception from me.

If the subjects embraced in the following work shall correspond with the ideas and expectations of its patrons generally, my duty will then, in a measure, be considered discharged. It is committed to the press, and placed at the footstool of science, to the mercy of its followers, for such use or abuse as may chance to befall it; with a request that you, gentlemen, may accept the most grateful acknowledgements and thanks of

Your humble servant,

THE AUTHOR.



TO
THE MARRIED LADIES OF THE UNITED STATES OF
AMERICA, THIS LITTLE WORK IS RES-
PECTFULLY INSCRIBED.

CURIOSITY, a thirst for knowledge, and a desire for improvement, seems more natural to the female than to the male part of the community. In former ages, females were almost the only physicians to attend the sick; and although kept in ignorance, generally, upon literary and philosophical subjects, the diseases of the human system, and the articles of the materia medica, then known, were objects of their study and care. And though in the present age of civilization and refinement, more attention is paid, than formerly, to the enlargement and cultivation of their mental powers, and to their improvement in scientific and literary attainments, it is to be hoped that they may never be induced to abandon or neglect that attention to studies, which may teach them to preserve human life and to alleviate human suffering; and which must necessarily be of constant service to them in after life, whether as individuals or as heads of families. The mistress and mother of a family, occupies one of the most important stations in community; and it is highly necessary that she should have some acquaintance with the theory of medicine, and some skill in its practice, to enable her to perform the duties of her station, with credit to herself, and with advantage to her family.

This treatise was intended for the service of those married ladies who are bringing up families of young children, and who are unacquainted with the numerous diseases to which they will be exposed. Many of them may be easily remedied, with little expense to their husbands, by a knowledge of their causes, and of such articles as will destroy those causes.—The means of preventing diseases, are no less important than the method of cure. An intelligent mother, who has taken pains to inform herself in the principles of bowel complaints in general, as respects their nature, cause, cure, and method of prevention, may, with a small expense and proper attention to their diet, during the summer months, keep her family in good health; while the neighbouring children, whose parents are ignorant of those things, are sick, and dying with the dysentery, diarrhœa, cholera morbus, &c.

This treatise was also intended for the consideration of those elder married ladies, who are fitting their daughters to fill stations similar to those in which they themselves are placed. It may put in their possession principles of certain diseases, and methods to relieve them, which before had not come within their reach, and which they are perfectly capable of understanding; which may better enable them to counsel and advise those who are still under their charge.

Men whose thoughts are occupied with the difficulties of business, and who are obliged to devote their whole attention to it, generally leave the charge of their children solely to their wives. How pleasing is it to a man of understanding, to see that his wife not only governs the conduct and disposition of his children with care and correctness, but that she also watches their health, and is always first to know when they are indisposed. And would it not be still more pleasing to such a man, if his wife well understood the nature

and cause of his children's illness, and the remedy to remove that cause before they become very sick and confined to bed, and before necessity compelled him to employ a physician? It is not expected that men of business can spare time to inquire into the principles of infantile complaints. The children are always under the eye of their mother; she is always the first person to whom they mention their pains, and make their complaints. The mother, therefore, is the proper person to direct their diet and their conduct. She has a better opportunity and more leisure than her husband, to inquire into the nature and cause of her children's complaints, and consequently more leisure to exercise her mind in obtaining a knowledge of the remedies which may relieve those complaints.

For this and other useful purposes, this work is addressed to the female heads of families, with a hope that it may in some degree prove a source of benefit to themselves and their families.

It cannot be expected that a work of this kind will consist of such interesting matter (to some persons) as that of which a novel, a tale, &c. is generally composed. If this treatise should excite curiosity, or even create amusement, in the minds of some of its readers, I trust that it may in the minds of others prove an entertainment which may contribute, in some measure, to their improvement.

As respects the dieting of children, mothers may gain such information, as will not only prevent them, during health, from being subject to certain diseases, but also when labouring under disease, contribute much to their ease, comfort and speedy recovery; and will also add much to the means of accomplishing a permanent cure.

As respects ventilating and purifying the atmosphere, which is often very noxious in the chambers and departments of the sick, I trust that mothers of children and nurses of the sick may obtain some useful information from this work.

A majority of nurses, and indeed a majority of females are totally unacquainted with the proper method of destroying deleterious substances in the atmosphere of the chamber of the sick, and also of removing the disagreeable and noxious odour which arises from the fœtid evacuations which necessarily occur in cases of bowel complaints. They are as likely to use some combustible materials for this purpose, as any other, and such as have, in many cases under my own observation, proved a serious injury to the distressed patients, and those also who were obliged to attend upon them. The injurious effect of combustion, in the chamber of the sick, is particularly mentioned, and I hope will be remembered by all who peruse this work, and who mean to profit by it.

There may be some terms made use of, (which necessarily occur in all medical works,) that are not altogether understood by those who are unacquainted with medical writings. I have endeavoured to make the whole work as plain and intelligible as my abilities would permit; and for this purpose, I have added a glossary, for the better explanation of such terms as occur in the work, and such as are not already understood by a majority of readers.

The observations on Dyspepsia, (or indigestion,) if strictly attended to, are such as may be advantageous to those who lead a sedentary life, and who are subject to the distressing phænomena which accompany this disease. If those who live in opulence will exchange some of the luxuries of their tables for the

pleasures of temperance, industry and exercise, by riding frequently in the open and pure air, retiring early at night, and rising early in the morning, although they may lose the pleasures of the former, for a few years, they may enjoy the pleasures of the latter to a good old age.

What a mystery is the mind of mankind to itself! Good living, with moderation, generally proves innocent, and has a friendly influence upon health and long life; but intemperance in eating and drinking, creates destructive effects upon the human system. These effects impair the memory, and render persons unfit for business. They weaken the understanding, and corrupt the moral faculties; are the predisposing causes of disease, and gradually shorten the lives of those who are under its baneful influence. If he chance to be a husband, who is addicted to these customs and vices, who can imagine the anguish he causes in the bosom of his wife! If she is a wife, under the same influence, what shame and disgrace does she bring upon her husband and family! But if both husband and wife are under this baneful influence, their children may picture to themselves and the family, the scenes of poverty, misery, crime, infamy, and diseases, with every other aggravation of wretchedness that occurs to fallen man.

Females have sometimes been led to seek relief from the disagreeable sensations called breeding sickness, by the use of ardent spirits, and have thereby acquired a fondness for, and a habit of using this substance, much to their injury, and but little to their relief. They will find the use of alkaline preparations, such as soda-powders, soda-water, lime-water, salt of wormwood, &c. together with a little gingerbread, or biscuit, to keep the stomach from being empty between meals, much better remedies, and contribute

more to their relief, than even wine or spiritous liquors. In those cases, there seems to be a tendency to the accumulation of acidity in the stomach. The use of spiritous liquors will serve to increase this tendency, while the use of alkalies or antacids will serve to destroy and correct it.

Let me recommend to mothers of children one caution, when their children are labouring under the pangs of disease; that is, never to appear alarmed about their situation, while in their presence, or give them any reason to think you suppose them dangerous, or cause them in the least degree to doubt of their recovery: but, on the contrary, inspire into their minds as much hope of recovery as may possibly lie in your power. Few persons know the extent of the influence of the will over the human body, and still less are conscious of the injury they are doing to a sick person, when they are impressing on his or her mind the terrors of death.

The partial knowledge of diseases which female heads of families may easily obtain, often proves the means of saving life, before medical aid can be obtained.

In severe cases of *Cholera Morbus*, the author anticipates that the perusal of this work by the matrons of the United States, will be instrumental in saving the lives of some of his fellow creatures. This disease, in certain seasons, attacks persons with such alarming symptoms, as to require the immediate assistance of some remedies, to abate them, or they frequently produce death within the space of one or two hours. In remote situations, where medical aid cannot be obtained within some hours, the heads of families will more particularly find out the importance of a work of this nature. If a mother, thus situated, will

faithfully peruse the following pages, and one of her children should be taken with this awful disease, which has committed great devastations upon the human race, she will then be made acquainted with its cause and nature, and be put in possession of a remedy, and thus, probably, be enabled to save her child from an untimely grave. Those families who are placed in similar situations, will find it highly important to keep on hand a supply of such medicines as they are acquainted with, and with whose virtues they are familiar.

The observations on worms in the alimentary canal, will, I trust, communicate some useful ideas to married ladies, who have young children. It will inform them what habits and constitutions are most likely to become subject to an excess of worms in the alimentary canal. They will be instructed what remedies will destroy them, without injuring the constitution; and also what remedies are sometimes used, that have in many instances proved dangerous, and become the means of exciting in the system some other disease.

The diagnostic symptoms, designed to give a competent knowledge for distinguishing the different forms of disease, are mentioned in this work; which may enable the reader to hit on a mode of treatment, with more certainty and correctness.

The variable prognostic symptoms are not particularly dwelt upon. They only serve to satisfy a natural curiosity, which leads us to inquire whether a disease will terminate in health, another disease, or death. Those symptoms often deceive the most accurate observer. Although we should not make light of any case, as there is scarcely one disease that has not, directly or indirectly, proved an outlet to human life, still it is impossible to tell, in acute diseases, where

death begins, and where life ends. Many sick patients have recovered, who had been pronounced as dying and incurable by their attending physicians. We should, therefore, never give up a patient as lost, or refuse to use the means of assistance, so long as life can be discovered, especially in acute diseases.

To you, parents, guardians, and relatives of the unfortunate and bewailing sick, permit me to enjoin upon your minds one important consideration; that is, you never should, in the hour of alarm, difficulty and danger, employ two physicians who do not agree in practice and in principles. Witness the words of the immortal and ever memorable Rush, when he refused to consult with those physicians of the city of Philadelphia who were opposed to his opinions respecting the bilious yellow fever, that raged epidemically in that city, in the year 1793.* “A *Mahometan* and a *Jew* might as well attempt to worship the *Supreme Being* in the same temple, and through the medium of the same ceremonies, as two physicians, of opposite principles and practice, attempt to confer about the life of the same patient.” What is done in consequence of such negotiations, (for they are not consultations) is the effectual result of neutralized opinions; and whenever they take place, should be considered as the effect of a criminal compact between physicians, to assess the property of their patients, by a shameful prostitution of the dictates of their consciences.

In this work, the author has offered no remedies on the principle of specifics, as it yet remains a doubt whether any such in reality do exist. Such remedies are offered as have proved useful in the cases for which they are recommended, and in which they are frequently and particularly useful in the advanced stages

* Rush's works, vol. iii. pp. 348, 349.

of disease. It is not my wish to advise sole dependence on this work in all cases of disease which are here mentioned. In malignant cases, when danger and difficulty occur, no time should be lost in applying to a physician. Such remedies as are useful in the hands of the mother and the nurse, prove still more useful in the hands of an eminent physician, who has a superior judgment for increasing or diminishing the doses, according to the circumstances of the patient.

The object, most dear to the author, in putting this work together, has been to mitigate the sufferings, relieve the miseries, and alleviate the distressing pains of the human family; and for these purposes I have spent the last seventeen years of my life, and to such purposes I expect to devote the remainder of my days. Such as it is, peruse it in your leisure hours; and when you are watching the distresses and pains of your helpless, sick infants, it may, perhaps, put you in mind of something that will afford them comfort or relief; and surely, I believe, it will never tend to injure your reputation in society, or corrupt your morals. Accept, dear ladies, my earnest wishes for your information on this subject; and that it may prove to you a source of comfortable reflection, and a means of enlarging your capacities and opportunities for usefulness, through the many trying scenes in this life, is the sincere prayer of

Your cordial friend,

And constant servant,

THE AUTHOR.

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TO
THOMAS MUMFORD, Esq.
OF CAYUGA,

THIS TREATISE IS RESPECTFULLY INSCRIBED.

DEAR SIR,

No one, at present living, so justly merits a public acknowledgment of this nature as yourself; and I take pleasure in paying to you this feeble tribute of my respect and gratitude, as well for the interest you have taken in the progress of this work, as for your unremitted kindness and attention to me for many years past. Be assured that the interest you have always manifested in my welfare, will not soon be obliterated from my recollection; and that my sincerest wishes for your continued health, prosperity, and happiness, always attend you. Accept this as a feeble token of the unfeigned gratitude and respect of

Your affectionate son-in-law,

JOHN G. VOUGHT.

JAMES M. SMITH

OF CHICAGO

THIS TRACT IS A REPRODUCTION OF THE

ORIGINAL

Page 20

To one of your friends, who has written a book
on the subject of the nature of the soul, and
I take pleasure in paying to you the money which
my friend and countryman as well as the interest you
have taken in the progress of the work, and the
uninterrupted labors and devotedness of the many
years past. He has said that his friend you have
very much told in his will, and that you have
improved from my reflections; and that my
and others for your continued health, prosperity, and
happiness, and the third year. I have this as a
the token of the ungrateful and respectful

Your affectionate son-in-law

JOHN C. FORTNEY

PREFACE.

THE chief intention of the author in undertaking this work, was to exhibit to the public a plain view of the nature, cause, and peculiar character of those diseases, which are usually termed bowel complaints.

For this purpose I have carefully examined the different medical writings, on those diseases that have come within the reach of my limited command ; and I have herein offered such principles on the subject, and such modes of practice as I have deemed best calculated to mitigate the severity of those diseases, and to effect their removal from the human system. Such as they are, the community are welcome to them.

Although my principles on the subjects in this work, may be far different from those of many physicians of the present age, still I am sanguine in the correctness of the expression, as I am also sanguine in that of many others, that may be herein after used, when I say, that I trust and earnestly believe, that the practice of those principles may be the means of mitigating the severity of disease, and of adding some fuel to the lamp of life.

They are cordially submitted to the public for investigation ; and although my future prospects in life are hereby hazarded, they are hazarded with my free will, without fear and without dread.

The ideas that I possess, the language which I use, the sentiments which I have imbibed, the opinions

and theories which I maintain, and have endeavoured to inculcate, are all derived from the intercourse I have had with the society of the world, and my little experience in the healing art. They are all placed on the same footing, and are equally hazarded with my future prospects and my hopes of prosperity.—The liberal patronage I have received from the public, by a subscription for this work, shall always be remembered with gratitude by

THE AUTHOR.

CONTENTS.

	PAGE.
PREFACE, - - - - -	21
Consideration of that disease in the bowels of the human system, termed by Nosologists, Dysen- tery, - - - - -	25
Digestion, - - - - -	ib.
How far animal diet is capable of exciting dys- entery, - - - - -	32
Chemical analysis of the Fæces, - - - - -	34
The true and exciting cause of Dysentery, - - - - -	35
Effects of Nitrous Fluids upon the Mesentery and its Glands, - - - - -	41
The connexion of Dysentery with Intermittent and Remitting Fevers, Cholera-Morbus, Diarr- hœa, &c. - - - - -	42
In what manner Dysenteries are Infectious, - - - - -	45
Dysentery, arising sporadically, endemically, and epidemically, - - - - -	46
Symptoms of Dysentery, and method of cure, - - - - -	ib.
Diet and Nursing, - - - - -	58
Receipts for Diet and Drink, - - - - -	61
Appearances, on Dissection, - - - - -	63
Vought's Chemical Anti Dysenteric Medicine, in the cure of Dysentery, - - - - -	64
Method of Prevention, - - - - -	73
Cases of Dysentery, - - - - -	76
On Diarrhœa, - - - - -	79
Cure, - - - - -	81
Prevention, - - - - -	85
Cholera Morbus, - - - - -	ib.

	PAGE.
Cure, - - - - -	89
Method of Prevention, - - - - -	99
Case of Cholera Morbus, treated by giving Calo- mel and Emetics, - - - - -	100
Case of Cholera Morbus, - - - - -	102
Colica or Cholic, - - - - -	103
Cure, - - - - -	106
Prevention, - - - - -	110
Thrush, or Aphthæ, - - - - -	111
Case of Aphthæ, or Thrush, - - - - -	118
Dyspepsia, or Indigestion, - - - - -	119
Cure, - - - - -	121
Case of Dyspepsia, - - - - -	138
Observations upon Worms in the Alimentary Ca- nal, and upon Anthelmintic Medicines, - - -	139
Alkalies, - - - - -	151
The Secale Cornutum, Ergot, or Spurred Rye, - - -	154
Recipes useful to Families, - - - - -	157
Sirups of Bonesett, Squills, Lemons, Horehound, &c. - - - - -	<i>ib.</i>
Infusion of Senna and Manna, Cream of Tartar, Rhubarb, Potass and Soda, &c. - - - - -	159
Tinctures, - - - - -	<i>ib.</i>
Medicated Wine, - - - - -	163
Poultices, - - - - -	<i>ib.</i>
Ointments, - - - - -	165
Plasters, - - - - -	167
Liniments, - - - - -	169
Fomentations, Draughts, &c. - - - - -	170
Mixtures, - - - - -	171
Solutions, - - - - -	172
Powders, - - - - -	173
Medicated Teas, - - - - -	175
Tænia or Tape Worm, - - - - -	179
Glossary, - - - - -	187

CONSIDERATION

*Of that disease, in the bowels of the human system
termed by Nosologists, DYSENTERY.*



As Bowel complaints are all, more or less, dependant on the functions of digestion, and as it seems necessary that a knowledge of the manner in which these functions are performed, in the healthy subject, should be obtained, in order to form a correct idea of those diseases, in which they appear to be impaired : we, therefore, commence the subject before us, by offering a few observations on the functions of digestion, as performed in the healthy subject.

Digestion.

ONE of the most important operations of nature, for the support of animal life, is the digestion of the food in the alimentary canal. The health of animals depends greatly upon these operations being performed with regularity, ease and freedom ; and whatever may tend to incumber or impede these functions, in a measure, becomes the cause of disease. By the word

digestion, we mean that decomposition which the aliment undergoes in the stomach by the operation of a fluid termed the gastric juice, which by means of a solvent power, peculiar to itself, prepares the food in such a manner as that its nutrient parts being thereby separated from the whole mass, are taken up by the absorbent vessels which are distributed throughout the small intestines. The solid food received into the mouth is prepared for digestion by being divided into small parts by the teeth, and mixed with a liquid, secreted from the blood by the salivary glands, called saliva; which liquid is necessary, in some degree, at all times for the purpose of moistening the mouth and fauces; but in a far greater degree, and in an increased quantity, during the mastication of food, to combine with the aliment, to form it into a pulp, by which means it is more readily and easily swallowed; consequently, the wise hand of nature has caused the smell, the taste, and even the sight of food, instantly to excite an increased secretion of saliva for this purpose.

This subject has been the theme of many discussions with the medical world for many years; and a variety of opinions prevailed among the ancients respecting the mode by which digestion was performed in the stomach. Some supposed trituration, some putrefaction, and others imagined that fermentation takes place in the stomach for the purpose of digestion. It is not my business to enter into similar controversies, nor is it proper to fill up this treatise by relating experiments of others to settle their favourite doctrines. I will refer the reader, however, to the experiments of the Abbe Spallanzani,* by which it appears evident that trituration only accelerates, but is not absolutely necessary for digestion. By chewing the food, the

* See Spallanzani's *Dissertations*, vol. I—sect. 62—p. 64, 65.

gastric juice acts upon it more speedily, by thus having a greater number of points to act upon. Nor can I imagine fermentation necessary in promoting digestion, as it is only observed when we are in ill health, and then in a disagreeable manner. The digestion is weakened and disturbed by disease, and the effect of fermentation is then perceived. There are three kinds of fermentation considered by chemists—the vinous, the acetous, and the putrid. We often perceive the vomitings of persons to assume a vinous smell when no wine has been taken; and also acid eructations, with which people are afflicted, have led many to suppose that they are necessary agents in the process of digestion. But animal substances in no case whatever, even in a state of putrefaction, undergo the vinous or acetous fermentation. Therefore, when sour eructations or vinous vomitings occur after eating animal food, they cannot be attributed to the vinous or acetous fermentation of the meat; and as no such disagreeable circumstances attend people in good health, while the digestion is carried on in its natural state, it appears rational that those symptoms proceed from a diseased state of the functions of the alimentary canal. This is also proved, beyond a doubt, by the following experiment made by Dr. Stevens: he took half an ounce of the gastric juice of a dog, which had been fasting eight hours, and put twelve grains of beef with it into a phial, and also the same quantity of water and beef in another phial; he placed them in a furnace, heated to 102° of Fahrenheit's Thermometer; he examined the contents of both phials, eight hours afterwards, and found the beef in the gastric juice entirely dissolved, while the other had undergone no sensible change: he removed them from the furnace twenty-four hours afterwards, and found the beef, in the gastric juice, emitted a rancid and pungent odour, and the other had become putrid and emitted a strong stench. During the solution of the beef

in the gastric fluid, there was not the least appearance of air bubbles rising to the surface, nor were there any signs of fermentation.*

With respect to putrefaction being considered necessary to complete digestion, a few remarks only are offered. It is generally observed that the saliva and other juices of the human body, of those who have fasted for some length of time, become acrimonious ; and even the breath, though naturally sweet, becomes offensive ; and after taking food, these disagreeable symptoms soon entirely disappear. When a mother continues too long without nourishment, her milk becomes rank and bitter, and her child rejects it with disgust. But when she takes a fresh supply of nourishing food, her milk soon becomes as fresh and as sweet as it was before. Let it be remembered by nurses and mothers of young children, that the health of their infant, as well as their own health, greatly depends upon the regularity of their diet. A nurse's diet should be composed of the best of rich materials, and cooked in the neatest and best manner ; and no interval should exceed eight hours, which will greatly add to the health and comfort of both mother and child.

If putrefaction was a necessary process for converting our food into chyle, with the chyle it would be communicated to every part of the body, and the breath, saliva, milk, &c. instead of being sweetened, would become offensive by eating. But it is well ascertained that the gastric juice, contained in a healthy stomach, instead of being septic, is highly antiseptic ; consequently, instead of promoting putrefaction, it will inevitably prevent it. If, therefore, animal food has become in a certain degree putrescent, it will, by be

* See Stevens' Dissertation, Experiment 23.

ing exposed to the operation of the gastric juice, again be rendered pure and sweet. In this, as in all other respects, nature strictly adheres to her general plan of simplicity, by endowing the gastric fluid with a power peculiar to itself, to act with equal force upon the diet, whether it be animal or vegetable, by means of a menstruum. The question is asked why the gastric juice does not dissolve the stomach as well as the food that is taken into the stomach? To which it may be answered, (as the celebrated anatomist, John Hunter,* has proved with much ingenuity,) that the same living principle which resists the putrid tendency in the blood, prevents the stomach from being acted upon by the gastric juice; but when the stomach loses this principle, it is as liable to be dissolved by the gastric fluid as any part of our food. It is owing to this living principle, that worms and snakes can remain in the intestinal canal and stomach; while they retain life they are proof against the solvent power of the gastric juice—but when deprived of this resisting power, they soon become liable to the operation of this menstruum. Thus it appears that the food is taken into the mouth, where it undergoes the operation of mastication and mixes with the saliva, then descends into the œsophagus, which is lined with a great number of small glandular bodies, which secrete a mucus, to make the mass pass down with ease and facility; thence into the stomach, where it undergoes the first operation of digestion, by means of the action of the gastric fluid, which contains a solvent power peculiar to itself, independent of trituration, fermentation, or putrefaction. This fits it in such a manner that the nutrient parts are easily separated from the mass, and taken up by the absorbent vessels, which are distributed throughout all the small intestines; thence it descends through the pylorus into the duodenum, where,

* See Hunter on the Blood.

by means of the gastric fluid and pancreatic juice, it undergoes the second operation of digestion, called chylication. The nutritive portion is here called chyle, which is of a white color resembling milk, of a saltish, sweet taste, but of no sensible smell. It is carried by the lacteals to the receptaculum chyli, through the thoracic-duct into the left subclavian vein, where it combines with the circulating mass and is converted into blood. In the duodenum it meets with a fluid of a green color, inclined to a yellow of a bitter taste, and a pungent and nauseous smell, secreted from the liver, and called bile. It is of a slimy substance, and froths like soap when agitated in a vessel with water. By distillation it affords a yellow alkaline phlegm, a considerable quantity of the carbonate of ammonia and carbonate of soda.* It is soluble in alcohol, and is of a resinous nature when concrete; the resin is inflammable, and fuses at 120° of Fahrenheit. It affords an empyreumatic oil and prussic and carbonic acids, and hydro carbonic gas. Its ultimate elements are, carbon, hydrogen, azot, phosphorus, and oxygen. The bile has been considered by many, to aid the operation of digestion, by means of the alkaline quality, which it possesses; but the food needs no assistance of this kind, after being exposed to the operation of the gastric juice; the properties of the bile must, therefore, be of some other use. It no doubt produces a chemical effect upon the alimentary mixture; but its all important use, which has been neglected by physicians of every age, is to prevent diseases arising from the putrefaction of animal and vegetable matter. The product arising from the decomposition of these substances, and which is the cause of disease, is nitric acid; and the alkaline nature of the bile seems well calculated to prevent it, by neutralizing this acid. The different authors who have written on autumnal diseases

* See Lavoisier's Elements of Chemistry, p. 169.

es, and who say, that in the warmth of summer, the bile becomes putrid, and thus becomes the cause of fevers, must labour under a very gross error, which is proved by the following experiment: Expose equal quantities of blood and bile under similar circumstances; the blood on the third day will become putrid, while the bile will not become putrid until the sixth day.

Thus it appears evident, that the blood has a greater tendency to putrefaction than the bile; and if those diseases were caused by a putrid state of the bile, the blood must already be in a high state of putrefaction, in which case the animal must certainly and instantly die: besides, when substances are undergoing putrid fermentation, a quantity of gas must escape; and the instant that any quantity of air finds its way into the blood-vessel of an animal, certain death is the consequence.

It is reduced to a certainty, that the true cause of those diseases which are and have been termed Bilious, is found to be that combination of oxygen and nitrogen which forms the nitrous or nitric acid, according to the degree of oxygenation. An acid is the true cause of fever; and all fevers arise from the same cause, differently modified. The alkali of the bile meets with nitric acid in the alimentary canal, when, according to the laws of elective attraction, the alkali having a stronger affinity for nitric than for carbonic acid, will let go the carbonic and unite with the nitric. This process continues till the whole acid becomes neutralized, or till the alkali of the bile becomes saturated with the acid. It seems to be a wise provision of nature, to furnish the system with an increased secretion of bile to operate upon the nitric acid vapours, which arise from the vast masses of putrifying materials at certain seasons of the year, and to prevent, or at any rate to lessen, the violence of disease. The natu-

ral colour of the bile which is often thrown up by vomiting, in cases of fever, is changed by its combination with nitric acid in the alimentary canal to a dark colour, resembling coffee grounds.

In the duodenum, the digesting process seems to be completed. The lacteals have taken up their part, and the residuum, incapable of digestion, is of no use in nourishing the animal.

The human alimentary fæces contain a portion of bile, pancreatic juice, and mucus of the intestines; is of a yellowish bilious color during health; and, from the slow motion of the large intestines during the stay of the fæces, putrefactive fermentation commences (which is evident from the fœtid odour of them) even in the healthy state of the body. Here the alkaline quality of the bile serves to correct and lessen this process, and when this quality is insufficient so to do, or when an excess of acid prevails in the intestinal canal, the fæces become unnatural, and disease is the consequence.

The alimentary contents pass through the duodenum to the jejunum and ilium; thence to the large intestines, cœcum, colon, and rectum; during which time absorption is still going on, and the contents are expelled from the body by means of the peristaltic motion of the intestines, aided by the pressure of the diaphragm, and the abdominal muscles.

How far animal diet is capable of exciting **DYSEN-
TERY.**

I shall endeavour to point out how far animal food is capable of imparting to the Fæces, a power of ex-

exciting Dysentery. I mean to be understood by animal diet, the lean part of this substance, as the fat does not possess the quality or power of exciting this disease, as it does not contain any portion of nitrogen in its composition, but is chiefly composed of carbon and hydrogen. In the lean part of animals we find the two substances, nitrogen and oxygen, which two substances, when improperly combined, form a noxious and pestilential fluid. So great is the disposition of nitrogen to combine with oxygen, the principle of acidity, that according to a wise law of nature, when the decomposition of bodies takes place, there is found to exist, to supply the waste of parts, a strong principle between them to unite and form a new compound, and if the heat be properly proportioned, they accordingly, on being free, instantly rush together, unite, and form a chemical union, producing nitric acid.—Such, also, is the strong affinity of nitrogen to combine with oxygen, that when in the form of nitrous gas, it will absorb oxygen from the atmosphere until it becomes completely saturated with it. That this decomposition and combination does take place in the alimentary canal, and that an acid is formed during the decomposition of animal substances, must evidently appear to the satisfaction, I believe, of every Physician who is acquainted with the science of chemistry. Let it suffice to say that such is the case; that this acid is, by experiment, found to be a nitric acid, and that this acid is only produced by the lean part of animal diet. It is, therefore, evident why the Dysentery is of so frequent occurrence in armies, on board of ships, in hospitals and navy-yards, in plantations and in large establishments of the like kind, where their diet is principally meat, and that frequently not of the best kind; for it is a well known fact, that meat, cured with salt, to keep it from becoming putrid, is frequently tainted, in some degree, at that season of

the year when bowel complaints are found to be most frequent.

It has been remarked by Physicians, and I have often experienced the truth of the remark, that patients who had been labouring under the dysentery or remitting fever, and were convalescent, frequently experienced a relapse by eating abundantly of animal food. All vegetable substances contain more or less of this deleterious quality, but in a smaller proportion than meat. Hence it appears by experiment, that putrefaction does take place in the intestinal canal—that the result is a pestilential fluid, which may be formed from the lean part of animal diet, and which is capable of imparting to the fæces the power of exciting dysentery.

Chemical analysis of the FÆCES.

By a chemical analysis of the fæces, we find them to emit hydrogen gas, sulphuretted hydrogen gas, phosphoretted hydrogen gas, carbonic acid gas, and nitrous gas. Hydrogen is a great ingredient in our nourishment. It is the principal in water and spirits, and is also contained in meats, and a portion of it is continually floating in the atmosphere, which is sufficient evidence of its existence in the intestinal canal. Sulphur is taken into the system with vegetable and animal food, and uniting with hydrogen, forms the sulphuretted hydrogen gas. Phosphorus exists in animal substances, particularly in fish, which, united to hydrogen, forms the phosphoretted hydrogen gas. The bones of animals are a phosphate of lime, as are also the teeth, the decaying of which, owing to this substance being let loose from its union

with lime, causes a disagreeable smell of the breath. Carbonic acid gas is another ingredient of our food, and is also contained in the alimentary canal. The nitrous gas exists in the alimentary canal, as it is one of the principal ingredients of the food of those who make use of animal substances, and is also the principal ingredient in the composition of the atmosphere, which stands thus : $\frac{71}{100}$ nitrous gas, $\frac{27}{100}$ oxygen gas, and $\frac{2}{100}$ carbonic acid gas. But neither of these gases have the power of exciting or producing dysentery, or a diseased state of the large intestines. This appears evident from the great use that is made of substances in our diet, of which those gases are principal component parts.

Hydrogen combined with carbon forms fat, which is a mild and nourishing part of our diet. By combining hydrogen and oxygen, water is formed; a necessary article in our drink. Hydrogen and nitrogen united, form ammonia, a medicine used with great success in some diseases, and used in large quantities without producing dysentery. These substances never combine together to form new compounds, after they are united to caloric, on account of the repelling power of caloric; and, although they exist in the alimentary canal, in the form of gases, are still found to be inoffensive.

The true and exciting cause of DYSENTERY.

That which I conceive to be the true and sole cause of this diseased state of the large intestines, has for many years been discussed by the most eminent physicians of the present age. It has been demonstrated by the most convincing arguments, and illustrated in

such a manner, and by such examples, as to remove all possibility of doubt in the mind of every man of common sense. It is the only true cause capable of exciting the dysentery. But it has been, and is, and will be overlooked and undervalued, through the ignorance or neglect of many who pretend to be followers and practitioners of the science of medicine in the United States. To shew the falsity of the arguments, and overthrow the elaborate doctrines of those who have pretended that the putridity of the bile was the cause of bilious complaints, (so termed,) such as intermitting and remitting fevers, dysenteries, diarrhœas, cholera-morbus, &c. much might be said. The valuable discovery of the cause of those diseases, can never assume a higher rank than it is justly entitled to. We say that nitrogen, so combined with oxygen, (the principle of acidity,) as to form an acid in the alimentary canal, is the only true cause producing dysentery. Pringle declares, that an acid exists in the fæces, which he called the feculant acid.* He united nitrous acid with the fæces to allay the fœtor, but, to his surprise, it greatly increased it. I have tried the experiment myself, and found it to have the same effect. This acid was called, by Pringle and others, the mineral acid; but it has since been found to be of animal and vegetable origin, produced by putrefaction. Let it be implanted in the minds, not only of medical men, but also of all parents and nurses, and all who may please to read this treatise, that the increased fœtor of the stools of patients, labouring under this disease, is a strong proof that nitrous acid is the cause of this disease. It is found that the food made use of by the human species, contains the basis of this acid, in a large proportion; and animal diet is much more used than vegetable, among that class of community which suffer most from this disease.

* See Pringle's Diseases of the Army, p. 385.

The *faeces* of a man fed upon coarse bread (says Homberg)* have been found to contain a salt, that detonated like nitre, when exposed to the fire. That its nitrous character is by no means ambiguous, its deflagrating on live coals soon convinced him of its being nitre; but its constantly taking fire in the retort as often as distilled, is a sure proof that it is a nitrous salt. This acid, then, is formed in the *faeces* of those who live on bread or corn, but in a far greater proportion in that of those who live principally upon lean or muscular animal matter. Animal substances (says Pringle)† will putrefy much sooner in a confined place than in the open air: it is therefore reasonable that they should putrefy sooner in the human bowels than out of them. It is also evident how dysenteries can arise in that season when no cause without the body can be discovered, and when a few sporadic cases only are met with. It does not follow that all dysenteries arise from a cause produced internally, but, on the contrary, a much larger proportion arise from the gaseous oxyd, and volatile acid of nitrogen, taken in from without the body.‡ The atmosphere that is affected with pes-

* See McQuer's Chemistry, vol. II. p. 372.

† See Diseases of the Army, by Pringle, p. 339.

‡ I would refer the reader to the principles of the Hon. Dr. Mitchill, of New-York, on the subject of alkaline remedies in fevers, &c. and the analogy between septic acid and other poisons, dated January, 1797: it will put him in possession of alkaline remedies, not merely pure or caustic alkalies, but all such compounds of other bodies, with alkaline bases, as are capable of being decomposed by septic or nitric acid, when they meet with it in the human body. (Medical Repository, vol. i. no. 11, p. 265.)

Few physicians (says the Doctor) calculate how many alkaline remedies they order for their patients; and still less have any tolerable idea of their real manner of operating. According to my judgment, there can be little doubt of the production of septic acid in the human mouth, from corrupting remnants of food—of its operation in encrusting and corroding the teeth, vitiating the taste, mingling with the saliva, nauseating the sto-

tilential fluids may affect all persons who are exposed to its operation, and who have a predisposition exist-

mach, &c. In the healthy state, the putrefactive tendency is checked by the gastric fluid in the stomach; and as long as it prepares good concoctive juice in sufficient quantity, so long will the contents of it be prevented from undergoing that process, whereby nitric acid is formed. But when, from intemperate drinking, excessive exercise, exposure to cold, or too great heat, or from any other cause, the functions of the stomach are impeded, or entirely cease; then food will corrupt, for want of sufficient power to concoct it, and the production will be a nitric fluid. As long as a man can keep up his digestive organs and powers, so long will he be free from the internal causes of intestinal fevers and diseases. And these complaints would indeed happen still more frequently, and be still more deadly, were it not for the health preserving fluid secreted by the liver, and which is capable of neutralizing any small excess of acidity that may prevail in the bowels; which secretion is still, by some, treated as an excrement, and as the cause of febrile diseases, when, in fact, it is proved to be the very antidote of the evil it has been accused of producing. The yellowness of the skin, in cases of yellow fever, and other pestilential diseases, is better accounted for, from the influence of nitric acid causing such a colour, as it acts upon the skin, than from the presence of bile. And the considerable quantity of bile secreted in such cases, shows that it has prevented, in the intestines, the fatal consequences of much nitric acid produced there. Those who have examined the dissections of the bodies of those who died of yellow fever, are satisfied, that as far above and below the orifice of the ductus communis choledochus as the bile extends, so far the duodenum, and contiguous parts, are free from inflammation. Nitric acid, either in or out of the system, is called the poisonous cause of disease. To explain the various methods by which this acid is communicated to the human body, I will mention the expression of Dr. Mitchill, which may, perhaps, be a new idea to some of my readers. No doubt but other poisons are acids. There are facts that evince the same thing. And it is told, (says the Dr.) on the authority of Mr. Hook, that the stings of bees, wasps, and hornets, likewise emit liquids of an acid nature, which those creatures discharge on being irritated; and it is related on the same evidence, that the thorns of the nettle plant have sacks containing a poisonous fluid at their bases, and holes near their tips, through which it is emitted, very much after the same manner of the fangs of serpents, and the stings of insects. This poison will probably turn out to be an acid, and throw light upon other poisons, called vegetable. Wherein the formic acid and

ing in the system to receive the disease. It enters into the pulmonic organs, and passing through the routine of circulation, leaves to the alimentary canal a portion of its deleterious quality. It is taken into the stomach during our meals, and is swallowed with the food. It is absorbed by the food. Expose a man's dinner for several hours over a filthy pond of water, where dead frogs, toads, newts, &c. are undergoing decomposition by the process of putrefaction, and I have no doubt it would absorb a sufficient quantity of pestilential matter to give him the dysentery, or some other pestilential disease. It is owing to the same

the poison of nettles peculiarly differ from each other, and from the acid of serpents, and the acid of pestilence, I do not pretend to know. At the same time, I think it probable that to whatever cause their small degree of difference may be owing, they all have a nitric basis, and the great traits of their character are mostly one and the same.

The following case is a proof that the poison emitted by the bite of a serpent is an acid. It is communicated by Dr. Moodie, of Bath, and recorded in the Medical and Philosophical Register, or Philadelphia Medical Museum, vol. i. p. 105.—The doctor says he has used, with the greatest success, the aqua kalipuri (water of the carbonate of potass) in the case of a woman who had been bitten by a viper, and who was apparently in a dying condition. A tea-spoonful was at first administered in water, every three hours, and afterwards every six hours. She was relieved immediately after the first dose, and in four days was perfectly restored to health. The doctor further observes, that when persons are bitten by animals whose venom is highly deleterious, the progress of the disorder may be stopped, and the person saved, by the speedy administration of the carbonate of potass. Hence, also, if any of the strong mineral acids should fall on any part of the body, the immediate application of this substance will prevent them from any further mischief. Or if a person should accidentally swallow any of the mineral acids, or muriate of mercury, or any other corroding salt, which an alkali will decompose, a speedy exhibition of a solution of these alkaline salts, in proper doses, will afford the most likely means of relief, and also means of preventing fatal effects. I am inclined to believe that the immediate application of the carbonate of potass to the bite of a mad dog, would prove the means of preventing the disease called hydrophobia.

cause that fever is produced ; and such is the connexion of fever with dysentery, that it seems a necessary symptom of this disease, except in sporadic cases, where there is no corrupted state of the atmosphere. So rapid is the absorption of this venom from the intestines, that it is taken into the circulation, and produces fever almost as soon as it effects the alimentary canal ; and fever does exist sometimes previous to the affection of the intestines, when the cause is taken to the blood by the pulmonic organs.* Marsh miasmata and putrid fumes, are considered the cause of the many febrile diseases which infect the inhabitants of this globe. We cannot see that they differ in any respect from each other. Marsh miasmata, are the fumes arising from marshes by reason of the decomposition of vegetable and animal substances that are found in those marshes. Hence they are putrid, and are nothing different in quality from the nitric acid gas. Whether they arise from marshy grounds, from filthy tanks, or filthy cellars and houses, from vegetable or animal matter, they are, in substance, the same, and are all capable of exciting malignant diseases ; and whether this terrible monster (Python) be generated in the body or out of the body, it is a certain fact, that it must, by some means, be communicated to the system to act as the cause of disease ; and it is

* A decisive proof that nitrogen gas is absorbed from the atmosphere by the lungs, during respiration, appears from the experiments of Dr. Henderson, of Edinburgh, which may be found in the Philadelphia Medical Museum, vol. i. pp. 349, 350, and confirmed by Davy and others. The result was as follows :

Exp. 1.—600 cubic inches of atmospheric air were respired for 4 minutes, at the temperature of 63° Fah. The quantity of nitrogen that disappeared was found to be 17 cubic inches.

Exp. 2.—The result of this case was, that after respiring 600 cubic inches of atmospheric air, for 4 minutes, at 64° Fah. 12 cubic inches of nitrogen were absorbed.

Exp. 3.—1000 cubic inches of atmospheric air were respired for the space of 4½ minutes, at the temperature of 57° Fah. The quantity of nitrogen absorbed was 15 cubic inches.

also a certain fact, that it must exist in the large intestines to become the cause of dysentery, whatever may be the predisposing cause ; and acid in the large intestines, is and ever will be the only true cause of this disease.*

Effects of Nitrous Fluids upon the Mesentery and its Glands.

DURING the operation of these noxious fluids upon the large intestines, other parts are liable to become diseased. The mesentery and its glands are, perhaps, the most frequently affected, as those fluids are more immediately applied to them by means of absorption. By those fluids passing through the lymphatic vessels, an inflammation is excited in them, which is communicated to those glands through which the lymphatics pass in their course to the thoracic duct, which sometimes induce an indurated state of the glands, which readily appears from the dissection of persons who have died with the dysentery. A disease, called marasmus, sometimes takes place in the advanced stage of dysenteries ; and also in other diseases which arise from the same cause, such as intermitting and remitting fevers. The glands become

* There are three inlets by which pestilential fluids may be conveyed to the internal organs of the body, viz. the mouth, the skin, and the sense of smell. Nitrogen, in combination with oxygen, forms a compound, which, when applied to the human body, will produce the varieties of infectious diseases, according to the parts to which it is applied ; and they will be malignant or mild, according to the degree of combination of the two substances. In the first degree, they will form, it is said, the gaseous oxyd of septon ; in the second, the septic gas ; in the third, the septonous acid ; in the fourth, the septic acid ; and in the fifth degree, the oxygenated septic acid.

indurated by the operation and application of nitric acid upon them. The chyle becomes obstructed in its circulation through the glands, and the body does not receive its usual nourishment; it must, therefore, waste away. Thus can we easily account for the disease termed marasmus. The absorbent vessels can be traced from the part where they receive the matter of contagion, to their termination into these glands.—The glands of the intestines are sometimes found to be scirrhus in persons who die with the dysentery. The obstruction of these glands are frequently the cause of dropsy, which so often takes place, and follows long continued intermittents, dysenteries, &c. The lymph being incapable of passing through the glands, becomes deposited in the cellular texture of the body, and thereby produces this malady. Dysenteries, diarrhœas, and intermittents, (or fever and ague,) if left to themselves, or unskilfully or improperly treated by physicians, often terminate in dropsical swellings, which frequently end in death.

Thus it appears that an indurated state of the viscera, scirrhusities of the mesentery, and its glands, of the liver, the pancreas, and the intestines, occasioned by intermitting and remitting fevers, dysentery, diarrhœa, cholera-morbus, &c. all of which are depending on nitric compounds for their exciting cause, are remedied or prevented, only by a proper course of medicine to counteract and destroy this cause.

The connexion of DYSENTERY with Intermittent and Remitting Fevers, Cholera-Morbus, Diarrhœa, &c.

From the similarity of the causes producing the above diseases, we are led to conclude that there is an

intimate connexion between them. Dysentery is defined by Cullen to be a contagious fever, with frequent mucous or bloody stools, which occur at the same time with autumnal intermittents and remittents, and is sometimes combined with them.* Wilson† says the dysentery comes on with the usual symptoms of fever; in many cases, first with a diarrhœa. It often makes its appearance gradually; sometimes wandering pains of the bowels are experienced some days before dysentery shews itself, and fever does not make its appearance till some time after this happens. It is sometimes a synocha throughout its course, but more frequently a well marked typhus from the first. The bilious fever, says Rush,‡ often appears in the same person in the form of cholic, dysentery, &c. in the course of five or six days. To describe them by any fixed or specific character, is as impracticable as to measure the dimensions of a cloud on a windy day. Much mischief has been done by nosological arrangements of diseases. They degrade the human understanding, by substituting simple perceptions, for its more dignified operations, in judgment and reasoning. They gratify indolence in a physician, by fixing his attention upon the name of a disease, and neglecting the varying state of the system. They lay the foundation of disputes among physicians, by diverting their attention from the simple, predisposing, and proximate cause, to the remote and exciting cause of disease. Rush says, that cholera infantum sometimes begins with a diarrhœa, which continues for several days without any other symptom of indisposition, but more frequently comes on with a violent puking and purging and a high fever. The matter discharged from the stomach and bowels, is generally

* Cullen's Practice, vol. ii. p. 336.

† Wilson on Febrile Diseases, p. 413.

‡ See Rush, vol. iii. p. 34.

yellow or green, but the stools are sometimes slimy and bloody, without any tincture of bile.* From the discharge of bile, from the remission and exacerbations of the fever, and from its occurring nearly in the same season with cholera and remitting fever in adults, I am disposed to consider it as a modification of the same disease. Hunter observes, that the dysentery and remitting fever ran into each other from the similarity of causes producing them in Jamaica; and Pringle often found intermitting fever change into dysentery.

Cleghorn† observes, that from the great similitude there is between the tertian fever and dysentery, he was induced to treat them in a similar manner. He adds, the tertian fever, cholera-morbus, diarrhœa, and dysentery, are frequently epidemics, there being a near relation between all these diseases. They frequently put on tertian periods, and change sometimes into one, and sometimes into the other. A tertian is sometimes changed into a dysentery, and sometimes a dysentery changes into a tertian. Many proofs may be advanced to advocate this point. I do not, however, assert that these diseases are all one and the same disease, and require one and the same treatment. But as I consider it an established fact, that they do arise, in some measure from the same cause, (nitrogen combined with oxygen, the principle of acidity,) this leads me to conclude that there does exist a connexion between them, and that they are modifications of the same disease. Nitric acid, in a greater or less degree, is the cause of all the before mentioned diseases, and the form of those diseases will, in a measure, depend upon that part of the body to which this acid is applied. Also, the malignity of those diseases will, in a great measure, depend upon the virulence and ac-

* Rush on Cholera Infantum, vol. i. pp. 156, 159. † p. 255.

tivity of this pestilential fluid, which becomes the cause of those diseases.

In what manner DYSENTERIES are Infectious.

DYSENTERIES are sometimes infectious; but whether infectious or not, depends upon circumstances. When a person, labouring under a malignant case of dysentery, is kept in a pestilential atmosphere, as is frequently the case, in departments which are neglected during the confinement of the sick; when the room is not frequently and sufficiently ventilated; when the sheets are not frequently changed; when the filthy and foetid stools are not immediately removed from the sick department; and when strict attention to cleanliness is not observed by the nurses, as is frequently the case in jails, sieges, camps, and in many other places, under these circumstances, dysentery may be infectious. But when every attention is paid to cleanliness, and when all putrid substances are removed from the habitation of the sick, I am disposed to believe that the disease is not capable of being communicated from one person to another.

It is to this day a subject of great dispute, and warm contests are entered into, by different parties, respecting the doctrine of contagion in those diseases caused by pestilential fluids. It is a subject that I do not wish to enter into; nor will the limits of this small volume admit of it; and more than all, I do not consider it important to the majority of those who may please to read this work.

DYSENTERY, arising sporadically, endemically, and epidemically.

WHEN a dysentery arises from the putrefaction of the contents of the alimentary canal, it is the cause of a sporadic affection. Where a few scattering cases of dysentery are only found to exist, and when their causes are produced in the body or neighbourhood of the patient only, they are then said to arise sporadically. When particular places and countries are visited by dysentery more than others, and its causes are generated in local situations, such as a pond of stagnant water, or large marsh, or body of vegetable or animal matter, undergoing the process of decomposition, as the case may be, the state of the atmosphere being impregnated more or less, according to the proportion of decomposition which takes place; when the dysentery arises in this way, it is said to arise endemically. When it appears at certain times, and attacks many persons, through large tracts and countries, and its cause taken into the constitution from a pestilential atmosphere, which every country may be more or less subject to, according to circumstances; where dysentery arises in this manner, it is said to arise epidemically.

Symptoms of DYSENTERY, and method of cure.

I THINK I have explained to the reader, in a plain manner, and I trust to his satisfaction, my full sentiments respecting the cause of this fatal disease, termed dysentery. Fatal indeed may this disease be called, as it would occupy almost the whole of this volume

to enumerate the places visited, and number of deaths occasioned by this disease, in the last ten years, in the United States of America: and it may well be said, that the pages of military history weep less for the slain in battle, than for those who have fallen victims to this calamity. It has been so malignant in some places as to baffle the skill of the medical profession in general; and has, in some instances, proved more malignant on account of the attending physicians not being fully acquainted with the cause and difficulties of the disease, and with the proper remedies to remove this cause and allay those difficulties.

Francis Bowes Sayre, M. D.* a gentleman of high standing in his profession, marks the very prominent symptoms which indicate the true cause of this disease. He says, great debility of the stomach, weak pulse, coldness of the extremities, difficult micturition, distressing tenesmus, a thin discharge, resembling the washings of meat, appearing very corrosive, excoriating the parts, and occasioning violent and almost continual tenesmus, were its symptoms. He says, the strength seemed withered, as if by a stroke of lightning, marking the highly septic (nitric) nature of the disease. But what were the doctor's remedies to counteract the septic (or nitric) cause and nature of the disease? He says he gave emetics, which he found to destroy the tone of the stomach,† and laxatives, which

* See Observations on Dysentery, as occurred in Bordentown, N. J.—Philad. Med. Museum, p 391.

† Emetics operate by their irritating, stimulating and sedative effects. By irritating, their effects are quick and powerful, which have a powerful effect on the nerves. By stimulating, they produce active, though not harsh vomiting; but in this mode of operating, they have an effect, though a mild one, upon the nerves. Such as have a sedative effect, have no direct tendency of themselves to excite the vital principle; yet by indirect means, as by relaxing the internal coat of the stomach, they produce vomiting, and thus sometimes are found to destroy the tone

hastened the progress of the disease, by increasing the patient's debility. He gave calomel, glauher salts, castor oil, sulphuret of antimony, &c. which, with the utmost pain he is obliged to say (although supported by the authority of the greatest and most candid writers in medicine) produced little or no advantage.— He tried the use of stimulating injections of opium, &c. but all to no desired effect. His patients generally fell victims to their disease. Although the doctor appears to notice the existence of an acid in the bowels, it does not appear that he used an alkali, in any shape, to neutralize this acid.

I do not wish to condemn the practice or writings of any gentleman in this disease. The above practice is noticed, as mentioned by the doctor himself, for the purpose of showing how malignant a state the disease sometimes appears to assume; and how difficult it has been to adopt a proper and successful treatment in this disease. I will now briefly point out the practice of many physicians in the United States, which has come under my observation, without any reference to individuals. I have made it my particular business to gain all the information in my power, on the subject of bowel complaints, since the year 1814, at which time a hospital of U. S. soldiers was put under my charge, on the west shore of the Cayuga lake, most of whom were dangerously afflicted with these complaints; and at which time I became fully convinced of my former errors in the treatment of those complaints.— In travelling through many parts of the United States for some time, I have not failed to make all enquiries respecting the places, and the malignancy of those diseases, and particularly the method of treatment made use of by the attending physicians.

of the stomach; consequently they must prove injurious in cases of dysentery.

The symptoms from which physicians generally make up their minds to call a disease dysentery, are, acute tormina, tenesmus, acrid discharges of blood, &c. sometimes accompanied with scybala by stool, and fever.

They first employ blood-letting, as authors have told them it was an invaluable remedy in the first stages of dysentery, to mitigate and take off the fever, even should the pulse be found low and quick, indicating a well-marked typhus.—Secondly. Emetics are used, they say, to cleanse the stomach and discharge the bile; for which purpose they use antimony, ipecacuanha, &c.—Thirdly. Purgatives are medicines highly recommended, and freely used, by physicians. They accordingly give calomel and jalap, castor oil, Glauber's salts, &c.—Fourthly. Sudorifics, with a view to excite perspiration. A variety of medicines are recommended, as James' powder, Dover's powder, antimonial wine, &c.; and calomel is also said to be used with the happiest effect, especially when it had affected the salivary glands.—Fifthly. Blisters. If the pain in the bowels continues obstinate, notwithstanding the several remedies before mentioned, recourse must be had to blisters, which are said by some to act as a charm in removing distressed and harassing symptoms; and, indeed, it appears to me, that after the patient has undergone all the operation of the before-mentioned remedies, it becomes highly necessary that something should act as a charm to relieve the system.—Sixthly. Astringents. Some use astringents in the first stage of the disease, and endeavour to check the discharge immediately, and cure the patient in one or two days. But the consequence generally proves to be an increase of more dangerous symptoms, and sometimes a change to a still more malignant disease.

After using all these depleting and irritating remedies, the physician finds his patient exhausted, with a preternatural constriction of the colon, occasioning those spasmodic efforts which are felt in severe gripings, which *Cullen* calls the proximate cause of the disease; weak and feeble pulse; coldness of the extremities; sunken countenance; brown or black tongue; great debility of stomach, with nausea and vomiting; and giving themselves up a prey to the most abject despondency. They then begin to think it necessary to endeavour to stop the discharge by stool with astringents, such as kino, logwood, zinc, &c.; and give opium and tonics to prevent the patient from running down; and if the patient complains of acidity of the stomach, magnesia or prepared chalk is the leading prescription.

The whole routine of remedies here enumerated, which would appear to many well calculated to have the desired effect, will have been administered not only without the least benefit to the patient, but, on the contrary, to his great injury; for had his system not been mangled in the early stages of his disease, his constitution might possibly have effected his recovery. But the strength of his constitution is now in a manner worn out, and the last resort of the physician, if it has not already by accident occurred, is to try the effect of mercury, which is given, combined with opium, in small doses, to produce salivation; which, in many cases, it fails to accomplish; and in other cases, when salivation is effected, and especially in cases of children under the age of six years, the unfortunate patient sinks under its operation, and death closes the scene.

I shall now make an effort to point out a method of treatment, of which, for the last nine years of my life, I have witnessed the most happy and satisfactory success; which is, I believe, the most general and modern practice in the hospitals of New-York and Philadel-

phia, and which is approved by the most generous and respectable physicians in the United States.

The symptoms which mark a true case of dysentery, and which distinguish it from diarrhœa and cholera-morbus, are, pain in the abdomen, tenesmus, severe griping, frequent mucous stools, streaked with blood, sometimes with scybala, sometimes spuma, pain in the head, nausea, coldness of the extremities, dry skin, brown tongue, pulse quick and small, and the stools green, fœtid and slimy, all of which plainly indicate the presence of septic acid in the intestinal canal.

Much credit is due to Dr. Wm. Bay, of Albany, for his dissertation on the operation of pestilential fluids upon the large intestines. His words are these: "In order to make a cure, the physician must administer such remedies as will prevent the disease or exciting cause from wearing out the excitability of the part affected. When I speak of curing a disease, I would not wish to be understood as meaning to prescribe a specific, for we have no such medicine; and it yet remains a doubt, in the minds of many, whether any such remedy has ever cut short a disease."

In order to make a correct prescription for a patient, labouring under a diseased state of the system, it becomes necessary to pay the strictest attention to existing circumstances. It is utterly impossible to point out a particular method of treatment, which will prove successful in all cases. All general rules have their exceptions. We will suppose a patient labouring under a true case of dysentery in a pestilential atmosphere, with an increased action of the sanguiferous functions, in which case we generally find an increased secretion of bile from the liver, and all other symptoms, plainly indicating the existence of an excess of nitric acid in the alimentary canal. Is it proper, under such

circumstances, to speedily and hastily evacuate this increased secretion of bile from the system, by the use of powerful emetics and drastic purges? I answer in the language of certainty and fixed principles, that it is not proper, in general cases, so to do; and my reasons are the following:—There is an offending matter existing, and constantly accumulating in the intestinal canal. It is absorbed already by the system, and has occasioned a febrile state of it. This matter is nitrogen, combined with the principle of acidity, oxygen, which forms nitric acid.

Would not the absorption of pestilential matter, when diffused throughout every part of the system, and consequently carried to the liver, be as likely to promote an increased secretion of bile from that organ, as an increased secretion of other juices, where the same matter is applied to other organs of the body? We well know, that when irritating and stimulating substances are applied to the eyes, they will promote an increased secretion of the fluids from these organs, as is witnessed in cases of ophthalmia. When the like substances are applied to the nose and mouth, the same increased secretion takes place from these parts: and why may not an increased secretion of bile from the liver be produced, when the liver is exposed to the action of irritating or stimulating substances, or, in other words, pestilential fluids? Now it appears that nature, in this instance, does strictly adhere to her wise and general plan of simplicity; and it does therefore appear rational, to me, that indirectly she may make use of the matter of infection itself, as the instrument to accomplish her wise design of promoting an increased secretion of bile, which contains an alkaline quality, seeming particularly adapted to the purpose of neutralizing and destroying this acrid and offensive matter, which is the cause of disease: and shall we here oppose the effort of nature, by directly

giving emetics and violent cathartics, to discharge and waste the precious fluid which she has graciously offered, to counteract and destroy the very nature and cause of the disease? Nay, on the contrary, it strictly behooves the physician, when at the bed-side of his afflicted patient, to view all the motives of nature, in her various operations, with the utmost deliberation, and with a most delicate eye; and instead of opposing her rashly and indifferently, in the design which she is about to accomplish, he should render her such gentle assistance as she may require, in the most tender and delicate manner. Consequently, instead of giving emetics and active cathartics, which might tend to destroy the tone, and irritate the stomach and intestinal canal,* the remedies first to be used, should be alkalies, such as the sub-carbonate of soda, or sub-carbonate of potass, to assist the alkaline qualities of the bile, in neutralizing the septic or nitric acid in the alimentary canal, which should be given in repeated small doses, and increased or diminished, according to the quantity of offending matter contained in the system, upon which these alkalies are to operate; at the same time using some gentle laxative, such as ol. ricini, decoction of senna and manna, sup. tart. potass and rhubarb, &c., to produce a gentle, and, if possible, a natural evacuation, which may be very much assisted by the use of enemata, consisting of starch, sub. carb. potass, or soda, molasses, or sugar, olive oil, and decoct. of rhubarb,† a part of the treatment which should

* There may be cases in which emetics and violent cathartics can be used, perhaps, to the benefit of the patient, and cause a speedy cure: but I am inclined to believe they are chiefly confined to sporadic cases, and to persons possessing a strong constitution, and also when the disease is taken in its early stages.

† Recipe, which will be proper to be used as an injection, for a child about two years old, and varied, according to the age:—Take of rhubarb, one drachm, in decoction, half pint; Poland starch, half an oz.; salt of tartar, half a drachm; elix. pargorie,

never be omitted in any severe case of dysentery, and should also be used in the early stages of the complaint.

Venesection is sometimes employed to advantage in the early stages, which must depend upon circumstances, and left to the judgment of the physician; although I would advise it to be used sparingly, and with caution. Opiates are of service, by allaying the irritation, and furnishing the patient rest, which is very necessary to the sick: but they are to be used in small doses, and not frequently, in the early stages; nor should they be used oftener than once in six hours, in any stage of the disease, unless absolutely necessary to relieve extreme pain. Blisters applied to the abdomen are sometimes used with the happiest effect, and should not be neglected in extreme cases, when great distress and anxiety attend the patient, and particularly when there is an inflammatory affection of the bladder, kidneys, &c.

Demulcents.

DEMULCENTS should be used in almost every stage of dysentery, to obviate and prevent the action of acrid and stimulating matter, by involving them in a mild and viscid substance, which prevents them from acting on and injuring the delicate and sensible parts of the body. Therefore, mucilage of gum arabic, starch-water, the white of an egg beat up, or sago, arrow-root, &c. should be the vehicle in which all medicines should be given in this disease. This course of

olive oil, a. a. one tea-spoonful; sugar, or molasses, one table-spoonful; to be used per ano.

treatment should be continued till the fever has subsided, and until the stools have become natural.

I have said that, under circumstances of an increased secretion of bile from the liver, (a substance which contains alkaline qualities) we should assist nature in accomplishing her wise design of neutralizing the acid contents of the alimentary canal, by giving alkaline preparations, both as a draught taken in at the mouth, and in the form of an enema, (to be used per ano.) But perhaps there may be found a majority of cases in which there is not found an increased secretion of bilious matter; but on the contrary, there may be a diminution of this secretion, especially in sporadic cases. Under such circumstances, it behooves the physician not only to assist but to supply the deficiency of nature in this respect; and it therefore becomes more necessary that the basis of his prescriptions should be of an alkaline nature, to accomplish this desired effect. They are such a part of the remedy in the treatment of dysenteries (whether they be attended with an increased or with a diminished secretion of bilious matter) as contain the only principle for destroying the nature and true cause of the disease; and there must be a chemical action between the principle of an alkali and the matter of contagion in the alimentary canal, whereby its deleterious quality may be destroyed and discharged in order to effect a cure.— And I venture to go one step farther, and say, that this alkaline principle must be conveyed, either by nature or art, to the intestinal canal, there to meet with this deleterious matter, and form a neutral and inoffensive substance, and thus relieve the system from the malignant effect of this matter, or the disease must inevitably end in death; which, I am sorry to say, has proved the fate of most of those unfortunate victims of this disease, who have been treated in an opposite course, and upon a different principle from those which

are here laid down. I must confidently assert, and I hope it may never be forgotten by all who wish to be instrumental in saving the lives of their fellow-creatures, that in every true case of dysentery, notwithstanding all other prescriptions they may think necessary to allay certain symptoms that may occur, a constant and correct course of alkaline medicines, with the addition of mild cathartics, from the very first commencement of the disease, till the stools become natural, and the patient is free from fever, will greatly add to their success in accomplishing a cure.* Thus far, by a careful attention to the efforts of nature, and by rendering her such assistance as she has required, we shall find our patient convalescent, and free from fever, with a gentle diaphoresis, and stools in a manner natural, without pain, but perhaps a little inclined to diarrhœa. We then with propriety begin the use of *tonics* and *astringents*, which must at first be used in small doses, and be increased as the strength of the patient increases, according to his situation.

Tonics.

THE tonics should be mild, when first administered, as the excitability must be reduced to the healthy standard; or otherwise we might subject ourselves to the danger of producing in our patient another disease. I would recommend, first, an infusion of chamom-

* I have administered the volatile alkali, or sub-carbonate of ammonia, combined with the spirits of lavender compound, in low stages of dysentery, sometimes with the happiest result. It is truly pleasing to see the unfortunate little infants, when sinking under all the tortures and distressing symptoms of their disease, immediately open their downcast eyes, and revive, by the use of this cordial mixture.

mile flowers, or an infusion of the eupatorium perfoliatum (or boneset, thoroughwort, Indian sage,) to which may be added a small proportion of the sub-carbonate of potass (or salt of wormwood,) in small doses; for as there may be some portion of nitric compounds in the stomach and intestines, they might endanger a relapse. Consequently, while the tonic quality of the infusion above stated tends to restore the system to its healthy state, the alkali will assist the cure, by destroying any septic acid that may be formed in the alimentary canal, and thus prevent a relapse, and insure a recovery. After which, the columbo, the cinchona, the gentian, the quassia, or even the mineral tonics, may be used with safety. And the *astringents*, such as port wine, claret, or gum kino, &c. &c. may be used, if necessary, without any injurious effect; which astringents may also be combined with the different aromatics, such as nutmeg, cloves, mace, cinnamon, orange peel, &c. &c.

I have not thought proper to mention the particular doses of the medicines that are here recommended, as I do not consider them safely prepared in the hands of those who are unacquainted with the science of medicine; and as the doses should be varied according to the age and situation of the patient, they should be left solely to the superior judgment and to the discretion of the attending physician. I have also endeavoured to simplify this work, so far as I consistently could, and have not troubled the reader with particular nosological arrangements, proximate, primary and predisposing causes, &c. or particularly with the numerous stages and many little changes which take place in cases of this disease.

It is now incumbent on me to consider a very necessary and important part of the cure of dysentery, which is included under the head of diet and nursing.

DIET and NURSING.

Nursing.

NOTWITHSTANDING all the efforts and judgment of the physician, should his prescriptions be ever so correct, and his knowledge of the disease be ever so great, much dependence should be placed upon a proper mode of nursing, and a proper course of diet, to accomplish a speedy and perfect restoration of health in the patient.

It behooves the physician as well as the nurse to pay the greatest attention to the state of the atmosphere surrounding the patient. The vitiated state of it must be corrected in the following manner: There should always be two chambers provided for a sick person labouring under a violent case of dysentery, and the patient should be removed from one to the other chamber, at least every other day. They should be perfectly ventilated; and immediately after the removal from each chamber,* the floors should be cleansed with alkaline water. Put $\frac{1}{2}$ lb. of pearl-ash into a pail of hot water, with $\frac{1}{4}$ lb. soap, which should be used for the last cleansing of the floor. The walls should be white-washed with lime, which should be repeated as often as the patient is removed. In this way, the vitiated state of the atmosphere in each room is corrected; the pestilential matter floating in the room unites with the alkali and the lime, and forms nitrate of potass and nitrate of lime, and in this way it is taken out of the

* The floors and walls of a sick person's chamber should always be perfectly dry, before the person should be suffered to enter it; and a free current of air should always be made to pass through it.

circulating atmosphere. The bed-clothes should be changed every 24 hours, and washed in alkaline water. The bedding should not consist of either woollen, cotton, or feathers, but wholly of linen and hair, or straw. Woollen, cotton, and feathers, are capable of absorbing large quantities of the deleterious matter, and should not be suffered to remain in the chamber of the sick. The food of the patient must not be cooked in an impure atmosphere; neither ought it, or the drinks of the patient, to remain near his bed-side. The discharges which are fœtid and disagreeable, should also be immediately removed, and all possible attention should be paid to cleanliness in every respect. Sprinkling cloths and the floors with vinegar, after an evacuation, often affords a grateful odour to the sick. The burning of rags, resin, tar, &c. is sometimes used for the purpose of destroying the smell, and correcting the air, after an evacuation by stool. This is a practice made use of only by the ignorant, and is very injudicious and improper. Instead of purifying the air, it makes it less pure than before. All attempts to purify the atmosphere by combustible materials ought always to be avoided; as during combustion, the vital air, so necessary to support combustion, and likewise so necessary for animal existence, is absorbed. And if this is destroyed, which it must be during combustion, or at least diminished, it may endanger the life of the patient, and also affect his attendants. If the atmosphere cannot be purified, which oftentimes is the case in particular confined situations, the patient should be immediately removed to the country, in an atmosphere uncontaminated with pestilential fluids. This precaution should never be omitted by those who are able to carry the measure into effect.

The patient should be bathed by the nurse every morning, with Castile soap and water, or a weak solution of soda in water, about blood warm, to be used

with a sponge or flannel cloth ; after which, clean linen must be applied to the skin. His feet should also be frequently soaked in warm alkaline water.—(Put $\frac{1}{4}$ lb. of pearl-ash to a pail of water ; and if pearl-ash cannot be had, use in its stead a shovelful of hot ashes from the fire-place.) If much pain and distress of the bowels attend the patient, warm fomentations should be applied to them, which may consist of flannels wet with hot boneset, tansey, wormwood or catnip tea, to which may be added a little of the sub-carbonate of potass. Sinapisms, composed of ground mustard, onions, and bread and butter mixed with vinegar, about the consistence of paste, may be applied to the soles of the feet, the wrists, and palms of the hands, and to the back of the neck, if there is much pain in the head.—They may also be used to much advantage, if applied to the lower regions of the bowels, instead of fomentations and blisters.

Diet.

GREAT attention to the diet of the sick should always be the business of the nurse ; and, indeed, many pride themselves in obtaining the knowledge and scientific principles of a proper diet for a sick person.

The diet of a person who has the dysentery may consist of soups, which should be made of the fattest of animal food, or wild fowl, if they can be obtained. They should be well seasoned with salt, but sparingly with pepper.* Gruel, sago, panada, &c. may also be used. Broth made of fat mutton is sometimes very

* Muriate of soda, or common sea salt, is highly recommended in this disease. When dissolved in any of the vegetable acids, it is said to have cured dysenteries in the island of Jamaica, after all other remedies failed which have been celebrated in curing this disease.

acceptable and useful to the patient; as also barley soup and beef tea, venison soup, partridge soup, pigeon soup, &c. &c. Ripe fruits may be sparingly used, either baked, stewed or roasted, and peaches in a state of nature. The fat of all animal food may be used without injury; and I have often seen little children suck on a piece of salted fat pork, which appeared to relish better than any thing else, and no injurious effect resulted from the use of it. Milk and vegetables may also be used. But the lean part of animal food should be prohibited during the whole period of the disease; and even for some time after the health is perfectly restored, it should be used sparingly, as it might, for reasons which have already been assigned, when speaking of the lean part of animal diet, induce a relapse.

The drinks of the patient may be toast and water, apple water, lemonade, barley water, cranberry water, tamarind water, currant jelly water, prune water, raspberry vinegar water, sweet milk, or buttermilk, whey, &c.; all of which may be used and changed as often as the patient's appetite may require.

RECIPES *for* DIET *and* DRINK.

A refreshing Drink in a Fever and Dysentery.

PUT a little sage, two sprigs of balm, and the half of a lemon sliced, with one ounce of sugar, in a stone jar; then add three pints of boiling water, and cover it close for fifteen minutes.

An agreeable Drink.

To a tumbler of cold water add one table-spoonful of cranberry sauce, or currant jelly, with a lump of loaf sugar, and a little mace.

A nourishing Draught.

Beat up a fresh egg with half a pint of new milk, add two spoonfuls of rose water, and one of noyeau, and a little nutmeg and cassia, which may be used in the weak stages of dysentery; and in cases of diarrhœa a little cloves may also be added.

A cooling Drink.

To one pint of hot water add one ounce of cream of tartar, and two bruised ripe peaches, and a little orange or lemon peel, with two lumps of loaf sugar.

A Jelly for the dysenteric patient.

Take of rice, pearl barley, and gum arabic, each one ounce; the filings of hartshorn, two ounces; add three pints of water; which must be simmered down to one pint; then strain it, and add one tea-spoonful of the essence of lemon.

Mutton Broth.

Take two pounds of mutton, one handful of sweet herbs, and boil with two quarts of water; add arrow root, rice, or pearl barley, and season with salt only.

Calves' feet Broth.

Boil two calves' feet in two quarts water ; add the yolk of one egg, some flour, or pounded crackers, with salt, a little grated nutmeg, or lemon peel—stir it all together.

Barley Gruel.

Boil four ounces of barley in two quarts of water, with grated cinnamon, till reduced to a quart ; then add sugar, and a little Madeira wine.

Egg Wine.

Beat an egg with a glass of water and a small glass of wine, with sugar and nutmeg ; put it on the fire for a minute, and keep stirring, but do not let it boil ; then add a little toasted bread, or crackers, with a little lemon peel, or mace.

Appearances on Dissection.

THE dissections of Sir John Pringle, Dr. D. Munro, Dr. Cleghorn, and others, clearly show that no part of the alimentary canal escapes the ruinous effects of this disease. The stomach and intestines have all been found more or less affected by inflammation, supuration and gangrene. I have never failed to open all the dead bodies of dysenteric cases, whenever I have had an opportunity of doing so, since the year 1814 ; and I lament that it has not been in my power to dissect many more than my opportunities have al-

lowed me. The disease always affects the large intestines; sometimes, however, the colon and rectum are only affected; they assume a black and putrid appearance. The coats are enlarged, much ulcerated on the inside, and gangrenous. The villous coats are sometimes changed into a corrupted and slimy substance, of a greenish colour. The mesentery, glands, and omentum are affected, and put on a greenish colour. The bile is ropy, thick, and of a dark colour. The stomach is sometimes inflamed, which inflammation extends, in some cases, through the whole intestinal canal. The liver, spleen, and kidneys, are sometimes affected; and also the vena cava decedens, though this is of rare occurrence. In some instances the large intestines are inflamed; in others partly mortified, and in others entirely mortified. Purulent water is sometimes found in the cavity of the abdomen. Tubercles or excrescences are often found on the inside of the colon and rectum, which are sometimes of a firm consistence, and without appearing to have any cavity.

Vought's Chemical Anti Dysenteric Medicine, in the cure of DYSENTERY.

THE compound that I have offered to the public for the cure of dysenteries, as I have stated in the directions around each phial that contains the medicine, undergoes a chemical change in the stomach and intestines; renders all acrid and acid substances harmless, and destroys the nature and cause of the disease. It is a compound for which I have obtained letters patent from the United States, granting me the exclusive right of preparing, making and vending the same, for the term of fourteen years. The Re-

cipe is deposited in the patent office of the United States, for the inspection of every person who pleases to call and view it. It is, therefore, no secret or nostrum ; nor is it offered on the principle of a specific. It is not proper that families should prepare this medicine, nor proper that physicians should do the same, within the fourteen years, without my authority, as the penalty would be far greater than could prove to their advantage. Let it suffice to say, that this compound contains an alkaline quality, carbonic acid gas, and a gummy and mucilaginous substance. It operates as a diaphoretic and diuretic, as a gentle cathartic and aperient, and also as an antispasmodic ; to which is added an anodyne, which properties are, in most cases, all that are necessary to assist nature in accomplishing a cure. It is prepared with particular directions for all persons, from the age of infancy to that of manhood ; so that no mother or nurse can make a mistake, if she pays due attention to the directions ; which attention is necessary with all medicines, if advantage is to be gained by their use ; and without the most particular attention to the doses, and periods of time in which medicines are to be exhibited, the best and most efficacious article of the materia medica, (or compound of such articles,) cannot be expected to have the desired effect. I have said that this compound destroys the nature and cause of the disease. It does so, by meeting with the nitric fluids in the stomach and intestines, that are always present in every case of dysentery ; and with this nitric acid it undergoes a chemical change, whereby both substances are destroyed. The acid is then no longer an acid, and the alkali is no longer an alkali ; but both combined, form an inoffensive, neutral matter, which, instead of injuring, will assist the laxative quality of the compound medicine to produce a natural evacuation by stool, and relieve the excitability of the system, from the corroding power of the exciting cause

of the disease. This compound is not only to be given as a draught, but should also be exhibited as an enema. Three times the quantity, which is directed to be taken by the mouth, should be added to a sufficient quantity of starch-water, with a little sugar, and be used (*per ano*) as an enema.* This medicine, when administered by the mouth, neutralizes the acrimonious substance in the passage through the whole alimentary canal, if sufficient doses are used, and also the septic acid, which is the cause of the disease. When it is injected in the form of clysters, I can almost say it operates as a charm, in relieving the griping pains, and allaying the tenesmus. In both cases, it mitigates pain, allays spasmodic action, restores and equalizes the peristaltic motion, and effectually destroys the fœtor and infection of the stools. This medicine is not only a valuable remedy in dysenteries, diarrhœas, and such other diseases for which it was invented, but it has been found an admirable remedy in fevers, and all diseases arising from putrid exhalations, or a pestilential or infectious atmosphere.

The use of this medicine has been and is strongly opposed by a majority of the physicians in the Uni-

* The particular benefits of using alkaline injections, are as follows:—The medicine taken by the mouth, undergoes its chemical operation with the acid contents of the stomach and upper intestines, before it descends into the lower intestines; and thereby, in a measure, loses its active virtues; therefore by injecting some of the same medicine, *per ano*, that is used by the mouth, the whole of the contents of the alimentary canal are more immediately subject to its operation. For instance, the injection may be thrown up the intestines to the valve of the colon, or till it meets with the medicine taken by the mouth. That which is received by the mouth, neutralizes the acid contents of the stomach and upper intestines; and that which is received *per ano*, performs the same office in the lower intestines; after which, both prescriptions pass off by stool, together with the fœces. By these means the remedy is more surely and speedily applied to the injured parts of the system; and it therefore sooner prevents the exciting cause of the disease from wearing out the excitability of the system.

ted States ; and I expect my principles on bowel complaints will meet with the same opposition. The principal opponents are gentlemen of the medical faculty, mostly residing in country places, and small country towns ; and from the general merit, science and disposition of many of those who resort to such situations, it is reasonable to expect their reproach and slander ; and sometimes there may be found in cities, some persons of the same stamp. Some of my brethren have opposed this remedy, because they have an enmity against all patents and improvements in medicine, and have never taken the pains to inquire into its principles, either as to its injury or benefit, but have set it down as an imposition, without knowing any thing whatever concerning its merits. Others have said it is arsenic, and have endeavoured to press an idea on the minds of those who were using it, that it would certainly kill them. These I have generally found to be a class of people who have no confidence in their own abilities to analyze a substance, but pretend to be so vastly wise as to determine the basis of medicines by the taste. Some physicians have condemned it, because two or three doses did not, in a single instance, perform a perfect cure ; and have asserted to their neighbours, that they have tried it, and found it to have no effect whatever. Others have said it is impossible that any one prescription should cure the dysentery ; and have the ignorance to state, that if it may cure one patient to-day, it might kill another to-morrow : they therefore pronounce it to be dangerous to use this medicine at all. A thousand abuses and slanders are advanced to the injury of this medicine, by the ignorant and illiterate of the profession. But what are the opinions of the generous minded, the scientific, the frank and honourable part of the profession of medicine, who have too much principle and too much honour to condemn a remedy without taking some pains to find out its acting properties,

and testing its virtues; who have too much dignity of character to condemn all patents and improvements, on the principle that some are not a benefit to mankind; and who wish to deal with others as they themselves would wish to be dealt by? They tell you in the language of truth, without partiality and without prejudice, that this compound contains four properties, which justly claim the approbation of the medical profession: the *alkaline*, which, by its chemical combination, unites with the acid of the contents of the intestinal canal, and forms a neutral and inoffensive matter, and thus destroys the nature and cause of the disease; the gentle *cathartic*, which carries off the excrements, and produces a natural discharge; the *diuretic* and *diaphoretic*, which produce a secretion of urine; and a diaphoresis, which mitigate and allay fever; and the opiate, which alleviates pain, and produces a cessation of irritation, and natural sleep, so necessary for the comfort of the exhausted patient—which qualities are indispensable to assist nature in restoring the dysenteric patient to perfect health.—What is the language of those parents who have used this medicine in their families in cases of dysentery, when they had followed the prescriptions of their attending physician till no hopes were left for the life of their infant, and they determined, as a last resort, to make trial of this remedy, to the great dissatisfaction of their physician, and contrary to his advice? They tell you, that to their utmost surprise, although they used it without the least confidence in its virtue, it seemed to possess that only power which nature called for, to assist her in the operation of raising their child from the borders of an untimely grave. What is the language of those candid females who have used it for dyspepsia, even under the reproach of quackery by their attending physicians, who had probably given them, for six months previous, the whole routine of remedies enumerated in the *Materia Medi-*

ca, without their experiencing any substantial benefit therefrom? when, at the same time, the artful son of Æsculapius knew that his enormous bill of from fifty to one hundred dollars, would be paid by the innocent husband of his unhappy patient, although he knew not what was to be the effect of his bountiful prescriptions, nor could he say why he made them so and so, lest his private quackery, which was concealed in his own heart, should be detected, and his impositions upon a generous public be brought to a close. They tell you, as some of them have told the physicians in whom they had placed confidence to restore them to health, and to whom they have paid an enormous bill of sundry visits, medicine, advice, &c. as to the benefit of which they might better have been left to the effort of nature—that they have found more relief from the use of this compound for the term of ten days, than from all the medicine and attendance from their physician for the tedious term of six months; that it has totally relieved the acid eructations, nausea and heart-burn, palpitations, vertigo, costiveness, and lowness of spirits, which were the constant difficulties under which they had laboured for so long a time; that they are no longer troubled with deficiency or loss of appetite; and that, owing to its influence, notwithstanding the misrepresentations made by their scientific doctor of medicine, who had previously attended them to no effect for the term of six months or more, they are again restored to the enjoyment of health.

It is not for me to extol this compound, nor do I wish to crowd it upon the public. It is deposited for sale in several parts of the United States, and purchased by those who think they can do no better; and the increasing demand for it wherever it has been used, is some small proof that it meets the approbation of those who have used it. It is put up in two ounce phials, sealed and inclosed with the following

DIRECTIONS.

For Dysentery.—Children under one year will take from 5 to 10 drops; from one to two years, from 10 to 15 drops; from two to four years, from 15 to 20 drops; four to six years, 20 to 25 drops; six to eight years, 25 to 30 drops; eight to twelve years, 30 to 35 drops; twelve to sixteen years, 35 to 45 drops; sixteen to eighteen years, 45 to 55 drops; and adults, one tea-spoonful, in a little thin starch-water, every $1\frac{1}{2}$ hours, till the stools become natural: at the same time children will take a little paregoric every 6 hours; persons from six to fifteen years, half an anodyne pill, and adults a whole pill, which will be found enclosed in the wrapper; using for diet, fat beef tea, mutton or barley soup. Port wine, and other astringents, may be used only after the stools become natural. Three times the above-mentioned doses, with a proper quantity of starch-water, should be used in every severe case, as an injection, every three hours, which will greatly relieve the griping pains and tenesmus which always attend the disease.

For Cholera Morbus.—The same above-mentioned doses should be taken, by children from two to twelve years old in a tea-spoonful of vinegar or lemonade, every 15 minutes, and by adults in a table-spoonful of vinegar or lemonade, every 15 minutes, till the vomiting subsides; after which it must be taken in thin starch-water every $1\frac{1}{2}$ hours, with the anodyne every 6 hours, using acidulated drinks, such as lemonade, tamarind-water, apple-water, &c.

For Diarrhœa.—The same doses, in a little salted water, with the anodyne as above stated; using for diet boiled milk and flour, spiced with cinnamon, nutmegs, cloves, &c.

For Worms.—The same doses, in salted water, fasting for 14 hours, after which a dose of bilious pills, or a dose of calomel and jalap, should be taken.

For Dyspepsia.—One tea-spoonful every 3 hours, for adults; to be used one hour before or after eating. It should be taken in mint-water, and always using it last when going to bed, and first when rising in the morning, on an empty stomach; and taking a gentle dose of anti-bilious pills every fifth day, to keep the bowels loose; and using a light and simple diet, such as coarse bread, at least one day old, soups, milk and boiled rice, wild meats, and game of all kinds. All provisions may be well salted, but not peppered. Boiled fish and oysters, (but not lobsters) may be used; and never combine two different dishes in the stomach at the same meal.

This medicine corrects the acidity in the intestinal canal, promotes digestion, creates an appetite, and, with the addition of moderate exercise, pure country air, abstaining from all spiritous liquors, except Port wine, with pleasing amusements, performs a perfect cure. This disease may sometimes not require more than two or three phials. The use of the Indian Botanical Ague Drop should be adopted as a tonic in the cure of this disease. Those females who (in a certain condition) are troubled with heart-burn, sickness, acidity, vomiting, or pain in the stomach, &c. will find much relief by the use of this medicine in a little lemonade, acid of oranges, or pure vinegar and water, and by this means may often prevent abortion.

For Cholic.—The same doses which are mentioned for dysentery should be taken every half hour, till the pain subsides, and till it effects a stool; for which purpose it should also be given as an enema per ano. and a double dose if necessary may be taken without inju-

ry in obstinate cases ; after which it may be taken every two hours, with the anodyne every six hours, &c. and also a dose of anti-bilious pills may be used to promote a more speedy discharge by stool.

One tea-spoonful of this medicine every morning, during the summer season, will effectually prevent all bilious and bowel complaints.

To remedy the evil of most of the above complaints, one phial has been found to be sufficient, if used at an early period ; but, after disease is seated, obstinate cases may require two, three, or more phials. Strict attention to the above directions, with perseverance, will insure success.

I have not mentioned the particular benefit which the use of this medicine would prove, in cases of all fevers termed bilious. They are generally cases which particularly require the attention of an attending physician. As the state of the patient often changes suddenly, so the remedies must also be changed. When such symptoms, in cases of fever, occur, as acidity in the stomach, vomiting, nausea, foetid and slimy stools, griping pains in the abdomen, &c. the physician who chooses to make trial of this remedy, will find out its active agency in allaying those disagreeable and often dangerous symptoms.

The qualities which this compound contains, have heretofore been fully explained ; and every medical man will be able to form a correct judgment in what manner it operates on the system, and also in what stages of fever it will be most proper to exhibit it, and when it will be most likely to have an advantageous effect.

Method of Prevention.

ONE ounce of prevention, says Dr. Mitchill, is worth a pound of cure. A disease may be cured by a mechanical knowledge of medicine, sometimes, without knowing the cause: but a perfect knowledge of the causes and also of the circumstances which produce them, are indispensably necessary, in order to adopt a correct method of preventing diseases. It therefore requires, in this case, a degree of penetration and discernment, not only in the physician, but also in the nurse. If a mother wishes to keep her children from getting the dysentery, the following directions must be observed: that is to say, she must, in that season when the disease prevails, keep animal substances from their diet, or rather, the lean and muscular part of animal substances, and substitute wholly a vegetable diet. The lean part of animals, we have said, contains a large proportion of the basis of nitric fluids, which, combined with oxygen, form nitrous or nitric acid; and when communicated to the alimentary canal, prove the cause of dysentery. She must, therefore, prevent its communication from this source. Vegetables, also, contain this principle, but in a much less proportion; therefore, vegetable diet is preferable to animal diet.

The atmosphere is also impregnated with this fluid, which proves the cause of the disease, by being taken into the system by means of the absorbing vessels, stomach, lungs, &c. It is therefore necessary to use the precaution of bathing the body all over with alkaline water, or strong soap suds, not only for the purpose of cleansing the skin, but also that the absorbents should take in a sufficient quantity of alkali to

destroy or neutralize the acid already absorbed; which bathing should be used as often as two or three times a week. At the same time, a draught of some alkaline salts should be taken occasionally, to destroy the acid which may be accumulating in the stomach and intestines, by means of its quality existing in the vegetable diet, and also that which may be communicated to the stomach and intestines, from a deleterious atmosphere, through the medium of the absorbents, lungs, &c.

Avoiding costiveness is a consideration very necessary in preventing children from getting the dysentery. If the fæces be suffered to remain stagnant in the alimentary canal, they become indurated, and the process of putrefaction commences, and produces this fluid, which causes the disease. Costiveness also weakens the system, and predisposes it to the operation of pestilential fluids. It should therefore be remedied, by giving children a dose of anti-bilious pills once a week, or by giving the alkaline or neutral salts in such quantities as to have a cathartic effect, or by giving them frequently of alkaline medicines, so as to supersede the necessity of giving cathartics, thereby preventing costiveness during the sickly season, which is the surest and easiest method. They should not expose their children to a pestilential atmosphere, but remove them if possible out into the country, where the air is pure and healthy, and totally free from marsh miasmata.

Avoid great heat, cold, and fatigue, and long intervals between meals, and also the morning and evening air. Avoid eating unripe and decayed fruits; and those that are ripe and sound must not be eaten to excess. Avoid spiritous liquors, and let the drinks be malt liquors, small beer, a moderate quantity of Port wine or claret, lemonade, &c. Eating salt fish about

three times a week may prove a means of preventing dysentery. The whole diet should not be inflammatory, but should be of a wholesome and lightly cordial nature. Fat salt pork, used as diet two or three times a week, is a healthy substance in summer months, and often proves the means of preventing bowel complaints.

The above observations should be attended to, not only for preventing dysentery, but also for preventing diarrhœa, cholera morbus, cholera infantum, cholic, and all bowel complaints. The medicine called Vought's chemical anti-dysenteric, if used every morning on an empty stomach, will serve to correct the acidity collected in the stomach during the night, and by this means prevent diseases originating from this cause.—Those who have used it for the two summers last past, have escaped all fevers and bowel complaints.

This closes the subject and treatment of dysentery; and I would here observe, that the Author of Nature has kindly prepared an antidote as a remedy for every natural evil that afflicts the human race. The means of preventing diseases are as much under the power of human reason, industry, and proper medicines, as are the means of curing and relieving them.

Rush calls dysentery, cholic, cholera morbus, and diarrhœa, intestinal states of fever. They nearly accord, in their greater or less degrees of violence and danger, with the first four states of fever which affect the blood-vessels, being all more or less produced by one and the same cause. Happily for mankind, the same remedies will serve to prevent them.

If persons who reside in cities and villages wish to escape pestilential diseases, they must guard against the bad effects of ponds of stagnating waters, by filling

them up; of damp cellars, by draining them; of filthy shores and dirty streets, by removing dead animal bodies and other nuisances, which are daily found on them, to such places as are not frequented by the inhabitants of such cities or villages; and frequently, in warm weather, should throw a shovelful of unslacked lime, or a pound of pearl or pot ashes in those places where their offal matters are discharged. Cleanliness in every respect will add much to the means of preventing all pestilential diseases.

Farmers who have low, marshy grounds on any part of their farms, must drain and cultivate them, if they wish to preserve the health of their families, and the health of their labourers. One year's sickness in the family of a farmer, will cost him more money than would pay for draining and cultivating fifteen acres of low, marshy ground, which when done, will be the best part of his farm for many purposes.

Cases of DYSENTERY.

CASE I.

IN the month of September, 1821, I was requested to visit a female child, about two years old, of Mr. S. of the village of Rochester. She was a patient under the hands of another physician, who had administered two emetics, which had been taken the two preceding days, and which had operated with much violence.—I found the symptoms of this case to be a pain in the abdomen, tenesmus, frequent and bloody stools, a quick and weak pulse, with other symptoms indicating a confirmed case of dysentery. After the exhibition of the second emetic, I was informed by the mother

of the child, that she not only purged blood, but that she also puked blood, during its operation. This being the fifth day of the disease, and the child being much debilitated by the operation of the emetics, together with the baneful effects of her disease, I pronounced it a doubtful case. But the mother being resolved to try the effect of my treatment, in cases of this nature, I commenced, by giving the child ten drops of my chemical anti-dysenteric medicine, (the acting principle of which has been particularly mentioned in this work,) every one and a half hours, and increased the dose one drop every nine hours; at the same time, using thirty drops of the medicine in half a pint of thin starch, with one tea-spoonful of paregoric, as an injection, to be used (per ano) every three hours. I also ordered twenty drops of paregoric every six hours, and the patient bathed with alkaline water morning and evening. This course was continued, until eighteen drops of the chem. ant. dys. medicine was given at one dose, when first the stools began to appear natural. The nausea, tenesmus, griping pains, and other alarming symptoms, gradually yielding to the remedy, a gentle dose of the super tartrite of potass and rhubarb was administered, which operated with much ease, and without producing any evacuation of blood. The nature of the disease was then considered to be changed, and the cause removed. The child being convalescent, a decoction of boneset, or the eupatorium perfoliatum, was ordered to be given in small doses, every two hours; she at the same time continuing the use of the first above mentioned medicine every three hours, in doses of twelve drops each, together with the anodyne or paregoric every six hours; which was all that proved necessary to restore the child to perfect health, it being accomplished in the course of five days. The diet of this child, during her illness, wholly consisted of mutton soup,

and boiled milk thickened with crackers, bread flour, &c. and spiced with cinnamon, nutmeg, &c.

CASE II.

THE following case of dysentery was in an adult of 21 years old, who was of a fair complexion, light hair, round face, &c. which occurred in August, 1822. She was a single lady, of very respectable connexions, and had employed two physicians at the commencement of her disease. She was taken with all the symptoms of a bilious remitting fever, and accordingly her physicians treated her as labouring under that complaint. They gave violent purges of calomel and jalap, and emetics; and after these had operated powerfully, dysenteric symptoms began to appear. I was called to see her, about the eighth day of her disease, at which time she was given up as lost, by her friends and connexions. I found her with much pain in the region of the kidneys and bladder, and unable to pass her urine. She complained of tenesmus, attended with a discharge of bloody mucus, and green stools, coldness of the extremities, dry skin, brown tongue, pulse 100, weak and small. She appeared much exhausted, and had frequent turns of fainting, with nausea and vomiting. I commenced my remedies for her relief, by first giving her one tea-spoonful of the anti-dysenteric medicine, with the same quantity of elix. paregoric, which she immediately vomited up. I then gave her half the quantity of the same articles, which she retained on her stomach, and which dose was continued every hour, for twelve hours. I also immediately applied a blister to the pubis, which drew finely in the space of six hours; after which, she voided her urine freely. The same course of medicine was continued, in doses of one tea-spoonful, every hour and a half, without the addition of the paregoric, but with the

exhibition of an anodyne pill every six hours, and the use of alkaline fomentations all over the body, every three hours. The tenth day of her disease, the bloody stools disappeared, and the pain and tenesmus seemed much less distressing. On the eleventh day, a gentle diaphoresis was found on her skin; her pulse 80; her extremities warm and natural; and she was free from all pain: she voided her urine with ease, and her blister began to heal. I had also ordered the use of an injection, composed of starch and molasses, with fifteen grains of the sub. carbonate of potass, every four hours, which was this day ordered to be discontinued. She appearing convalescent, although very feeble, I ordered a decoction of columbo root, in small doses, every two hours, and the use of the anti-dysenteric medicine every six hours, with the anodyne every eight hours. On the twelfth day, the disease seemed to be perfectly changed, and the cause destroyed. A slight diarrhœa was the only difficulty complained of, beside weakness, which were both remedied by the moderate use of port wine and aromatics. On the sixteenth day, my patient was discharged, in a state of usual health. She had taken five phials of the anti-dysenteric medicine, thirty anodyne pills, one quart of port wine, and had used a pound of Poland starch, with some other trifling articles.

On Diarrhœa.

DIARRHŒA is defined by *Darwin* as belonging to class 1, ordo 1, genus 2, with increased actions of the secerning system, species 5.

Diarrhœa calida, or, *warm diarrhœa*. This species is divided into three varieties, under the names of

febrilis, crapulosa, and infantum. The febrilis appears at the end of fever fits, &c.; the crapulosa from indigestion; the infantum, or diarrhœa of infants, is generally owing to too great acidity of the bowels.

Cullen puts diarrhœa under the head of spasmodic affections, without fever. He says it consists in an evacuation by stool, more frequently, and of a more liquid matter, than usual; which symptoms are so diversified in their degrees, their causes, and in the variety of matter evacuated, that it is almost impossible to give any general history of the disease.

Thomas puts it in the class of nervous diseases and order of defect of vital powers. Diarrhœa, (purging) to flow through, &c.

I shall not trouble the reader with classes, orders, genus, &c., with the many and everlasting species, or with the predisposing, primary, proximate, exciting causes, &c., as I have said, when treating on dysenteries. I will barely say, that it consists of a frequent discharge of feculant matter by stool, sometimes accompanied with tenesmus and griping, and generally without much fever or inflammation; although in most cases a slight fever may be observed. It is distinguished from dysentery by the discharges not being bloody, and not so mucous, but more natural, and not accompanied with hardened fæces (or scybala) and tenesmus, and not so distressing as is the case in dysentery.

It is sometimes rather difficult to distinguish the difference between these two diseases, as they frequently run into each other. Sometimes the dysentery will change to a diarrhœa, and sometimes a diarrhœa will turn to a dysentery. It is evident that they frequently arise from the same exciting cause, in a

greater or less degree; and it is evident, also, that a similar treatment proves advantageous in both diseases. Therefore, from the similarity of their causes, and of their symptoms, and from the fact of their occurring in or about the same season of the year, and the benefit received from a similarity of treatment in both cases, I am disposed to think them modifications of one and the same disease. Accordingly, but little mischief can accrue from mistaking the one for the other. I do not say that all diarrhœas are modifications of dysenteries, although a majority of them are found to be so. There are exceptions, as those which arise from poisonous substances taken into the stomach, and those produced by drastic purges, &c.; also those which take place in cases of extreme debility. But more or less of septic acid will be found in the alimentary canal, in almost all cases of diarrhœa; and in most cases it is produced or kept up by the presence of this septic acid. Dissections of persons who died with diarrhœa, have shown the effects and presence of this acid, although, generally, it is not found in so large a proportion as in those who have died of dysentery.

The absence of fever is a circumstance from which many distinguish diarrhœas from dysentery; but I have remarked, that in most cases of diarrhœa, there will be paroxysms of fever, though generally of the intermittent kind, which will attend the disease for several days; and sometimes the disease will assume the nature of an intermittent fever, when the discharge is too suddenly checked by astringent remedies, or improperly treated in some other respects, or from sudden exposure to cold, wet, &c.

CURE.

WHEN the disease shows itself to be caused by an acid in the alimentary canal, many first prescribe an

emetic, for the purpose of evacuating acrid bile, &c. which is said to be the cause of diarrhœa. I admit that the bile sometimes becomes acrid, but I cannot admit that it is the cause of the disease. It becomes acrid by its combination with the acid and other deleterious substances in the alimentary canal, as the alkaline quality of the bile is not sufficient to neutralize the acid contents. It also becomes saturated with acid, and therefore, combined with the alimentary contents, is rendered an acrid and irritating substance; consequently, the acrid bile, pancreatic juice, &c. are not the cause of the disease, but prove to be the effect of it. When diarrhœa is attended with frequent acid eructations, griping pains in the bowels, with white and slimy evacuations, occasioning a smarting sensation of the rectum, where there seems to be an acrimonious substance adhering to the internal surface of the intestines, and retained in their folds, which substance is extremely tenacious, and which is not removed by common emetics or cathartics, would not alkalies be found a useful class of medicines? With them may be combined gentle cathartics, say for instance, sub. carbonate of potass, with pulverized rhubarb, to be taken in proper doses every two hours, or sub. carbonate of soda, with jalap, or decoction of senna and manna, &c. The alkali of the soda and potass destroys this tenacious and acrimonious substance, and loosens or separates it from the internal surface of the intestines; and the cathartic quality of the rhubarb and jalap assists the alkalies (or the neutral substance formed by the alkalies) in discharging the whole alimentary contents out of the body.

After the septic tendency is destroyed and completely removed from the system, and there appears to be little or no fever, it may then be proper to gently check the discharge, by giving small doses of opium, or by giving astringents, such as gum kino, alum, log-

wood, catechu, &c. which must first be given in small doses, so as to gradually, and not suddenly, stop the discharge, and so as also not to create a fever.

Should diarrhœa be attended with worms, which are sometimes indicated by slimy stools, and pieces of decayed worms, such medicines should be given as will destroy them, which should be followed up with alkaline remedies and gentle cathartics, and lastly with opiates. Astringents and tonics may also be used.

When it attends pregnant females, it must be immediately attended to, first by giving alkalies to correct the state of the bowels, and then by the use of astringents and aromatics, to check the discharge.—Violent emetics and cathartics, in these cases, should always be avoided, lest they prove the means of occasioning abortion.

When it attends dentition, it should not be immediately checked, unless it should continue, and prove hurtful to the child. It may then be remedied by the use of mild alkalies and absorbents, such as prepared chalk, sub. carbonate of magnesia, toasted rhubarb, or burnt bread, &c.

In old chronic diarrhœas, the remedy should be not only alkalies, but astringents, opiates and tonics. The tonics may be either vegetable, such as the Peruvian bark, or Angustura, quassia, gentian, eupatorium perfoliatum, columbo root, &c. ; or mineral, such as the carbonate of iron, tincture of the muriate of iron, nitrate of silver, sulphate of zinc, acetate of lead, chalybeate water, &c. together with the cold bath every two or three days.

Calomel, in small doses, has been used for the purpose of producing salivation, in cases of chronic di-

arrhœa. Sometimes it has succeeded, and at other times the patients have died under its operation. It is a remedy I never make use of myself, although I will not pretend to say but others may possibly use it to advantage.

The diet should consist of mutton soup, rice, boiled milk, spiced with nutmeg, cloves, cinnamon, mace, &c. Sago, arrow-root, port wine, or claret, and lemonade, may be used, the patient abstaining from all spiritous liquors, and all lean animal food. Fat salt pork, and salt codfish, shad, or mackerel, are not injurious, but sometimes beneficial, in chronic cases of diarrhœa. A change of air is very beneficial; and riding in an easy conveyance, should be a practice adopted by all who can conform to it, every pleasant day, while they are under the influence of this disease. Taking children out in a hand waggon, two or three times a day, in pleasant weather, will greatly tend to facilitate their cure, both in cases of dysentery and diarrhœa, and is attended with but little expense, in comparison to the benefit they receive from the use of this exercise.

The medicine I have offered to the public, for the cure of diarrhœa, has proved of great benefit to those who have used it, and even in chronic cases it has succeeded beyond my own expectations. It is a cheap and certain remedy for those who cannot afford, and who do not wish to employ a physician in all cases. It operates by neutralizing the acid and acrimonious contents of the alimentary canal, and procuring natural stools; and the anodyne every six hours will generally serve to check the stools in proper season, and restore the patient to health.

For further particulars, I refer the reader to *Vought's Chemical Anti-Dysenteric Medicine in the cure of Dysentery*, page 64.

There are some cases of diarrhœa which particularly require the attendance and judgment of a physician. It is utterly impossible to point out any one method of treatment that will warrant success in all cases. There may sometimes occur difficulties which are overlooked by persons who are not conversant with the diseases of the human family. In the hour of danger, no time should be lost before employing a physician, whose skill and judgment may be confided in by the patient and his family.

PREVENTION.

DIARRHŒAS may be prevented by the same means and caution that are observed for preventing dysenteries, cholera morbus, and other bowel complaints which arise from the same cause.

Cholera Morbus.

A FREQUENT and violent discharge, both upwards and downwards, with painful gripings, (says Thomas,) constitutes *cholera morbus*. It prevails in warm climates, at all seasons of the year; but in cold ones, in the summer season, and particularly in the month of August.

From the matter rejected both upwards and downwards, which appears manifestly to consist chiefly of bile, *Cullen* says, that the disease depends upon an increased secretion of bile, and its copious effusion into the alimentary canal;* and as in this way it irri-

* *Cullen's Practice*, p. 451.

tates and excites the motions above mentioned, he infers that the bile thus effused in larger quantity, is at the same time also of a more acrid quality than usual.

Thomas says, the violence of the disease has usually been observed to be greater in proportion to the intenseness of the heat, which induces him to presume that *cholera morbus* is the effect of a warm atmosphere producing some change in the state of the *bile*; which change may consist either in the matter of the bile being rendered more acrid, or its being secreted in a preternatural quantity.*

Darwin† says, that not only the stomach, but also the duodenum and ilium, as low as the valve of the colon, have their motions inverted; and great quantities of bile are thus poured into the stomach, while at the same time, some branches of the lacteals become retrograde, and disgorge their contents into the upper part of the alimentary canal, and other branches of them disgorge their contents into the lower parts of it, beneath the valve of the colon. A vomiting and purging commence together, called cholera, as it is supposed to have its origin from an increased secretion of bile. But I suppose, (says he,) that it more frequently arises from putrid food or poisonous drugs.

Under the head of *cholera morbus*, we include *cholera infantum*, which is a vomiting and purging of children, and produced by the same cause as vomiting and purging of adults. The frequency and danger of this disease, (says *Rush*,‡) is always found in proportion to the heat of the weather. It affects children from the first or second week after their birth,

* *Thomas' Practice*, p. 330.

† *Darwin's Zoonomia*, vol. ii. p. 134.

‡ *Rush's Works*, vol. i. pp. 156, 157.

till they are two years old. It sometimes begins with a diarrhœa, and worms are frequently discharged.—There is also fever, which is of the remitting kind. Children draw up their feet, and are never easy in one posture. The disease affects the head, and in some instances, delirium and mania are produced. Frequently a swelling occurs in the abdomen, in the face and in the limbs. A thirst attends every stage of this disease. The eyes are languid and hollow, and children sleep with them half closed. Sometimes the vomiting continues without purging; but generally the purging continues without vomiting, through the whole course of the disease. The stools are mostly large and fœtid. A cool day frequently abates its violent symptoms, but in extreme warm weather, it frequently ends in death, in the space of a few days; and sometimes it carries off children within forty-eight hours from the first attack. When it is of long continuance, and the approach of death is gradual, an emaciation of the body takes place, livid spots appear, the bones come through the skin, and convulsions, a hippocratic countenance, hiccough, &c., with many other distressing symptoms, precede the fatal termination of this disease. Rush says, that from its occurring nearly in the same season with cholera in adults, and remitting fevers, he considers it produced by the same cause, and a modification of the same disease; and consequently, many of the same remedies are necessary in performing a cure.

Cholera (or bilious diarrhœa of infants, so called by Edward Miller, M. D. late Professor in the University of New-York*) forms one branch of a large stock of diseases, as much distinguished for the universality of their appearance, as for the diversified character they occasionally assume. Another form of them, more fa-

* New-York Medical Repository, vol. i. art. 4, p. 58.

miliarly recognized by the public, is that of remittent and also intermittent fever. Views of this subject, more comprehensive and accurate, have enlarged the number of them, by bringing back to their proper station, many diseases, formerly so much disguised in external appearances, as to conceal the fact of their radical relation. And it will not be surprising, if this simplification should be carried much farther, nor if our successors should cluster together a still larger assemblage of diseases, and demonstrate their origin all from one common cause.

I am inclined to ask if the disease mentioned by Dr. A. Coleman, of Ohio, which he calls the sick stomach, * may not be considered as a modification of the same diseases here mentioned, and which arises from the same cause? The symptoms, he says, are disagreeable, sickening sensations at the stomach, and general debility and lassitude, succeeded by great loathing, nausea and vomiting, or distressed retching to vomit; the vomiting returns every hour; the patient complains of great distress, and a burning sensation at the stomach. Hiccough and hot belchings are often troublesome. The tongue is slightly furred, and the breath is very offensive, and has a peculiar and very disagreeable smell. In more malignant cases, the patient falls into a stupor, the eyes are protruded, and pupils dilated, with other symptoms of phrenitis, with an occasional vomiting of black porraceous matter, which generally destroy the patient in a few days. He says, the materials generally thrown out of the stomach, consist of liquids that have been swallowed, which are hot, acrid, or sour, when ejected.

This disease is said to arise from the deleterious quality of some unknown vegetable poison. I would

* Coleman on the sick stomach, Phil. Med. Jour. No. viii. p. 322.

ask if this deleterious quality may not be in substance nitric acid? as the doctor says he found alkaline medicines to allay the irritation, and check the vomiting; and that he found the use of the lancet, cathartics, and alkalies, the most successful mode of treatment. It appears there was but little doubt that an acid did exist in the stomach; but the method of its getting there seems still to be involved in darkness. Should that particular vegetable poison ever be discovered, it will not be amiss to find out this fact by chemical experiment; and perhaps it may prove the means of easily accounting for the unknown cause of many other fatal diseases.

CURE.

OF all the various forms of bowel complaints, *cholera morbus* most immediately needs the assistance of the medical art, to prevent its destructive effects upon the human system. It prevails in some countries epidemically: for instance, the epidemic *cholera morbus* of the territories of Bengal, communicated by J. Jameson, assistant surgeon and secretary to the medical board of Calcutta.* They there witnessed the most awful *cholera morbus*, and also the greatest extent of its devastations, ever yet before known to have wasted the human race. Calcutta contains upwards of one million of inhabitants, where the disease commenced in August, 1817, and spread, in three or four weeks, to Silhet, Chittagong, Rajshahy, Bhoulgaipore and Monghyr. These places are scattered over an extent of about 450 by 200 miles, and no connexion between those distant points was discovered, which proves the cause to have been taken from the atmosphere, and not communicated from one to another. Few towns

* See a review of a report, Art. xix. Philad. Med. Jour. No. iv. August 1821, p. 355.

or villages of any considerable size escaped its attacks. It spread from Silhet to Cuttack, and from the mouth of the Ganges to its junction with the Jumna, a distance of four or five hundred miles in each direction. No accurate account of the number of deaths could be afforded, as its awful ravages were so rapid, and its victims numerous. It is, however, estimated that more than three and a half millions died within the years 1817, 1818, and 1819. The whole population of the Delta of the Ganges was sensibly diminished.

It reached the centre division of the army under the Marquis of Hastings, in which the mortality appears to have been frightful. The sick were so numerous that the medical men, although night and day at their posts, were no longer able to administer to their necessities. The noise and bustle almost inseparable from the intercourse of large bodies of people, had nearly subsided. Nothing was to be seen but individuals anxiously hurrying from one division of the camp to another, inquiring after the fate of their dead or dying companions, and melancholy groups of natives, bearing the biers of their departed relatives to the river. At length, however, there was neither time nor hands to carry off the bodies of the dead, which were then thrown into the neighbouring ravines, or hastily committed to the earth on the spot where they expired.

All business had given way to solicitude for the suffering. Not a smile could be discerned, nor a sound heard, except the groans of the dying, and the wailings over the dead. The division, in about twelve days, removed to an elevated position, strewing their path with the dying and the dead, who dropped along on the march. When this mortality, which began in a body of about ten thousand fighting men, besides the camp followers of this Indian army, at length sub-

sided, it was conjectured to have cut off eight or nine thousand.

The disease appeared to be more or less prevalent, as it existed under different circumstances. In the provinces near the sea, it lingered, without ever entirely disappearing, and renewed itself from time to time, perhaps as it does in this and other countries; while over the upper provinces, its route was like that of an invading foe, carrying terror and destruction in particular directions, and sparing others, seldom remaining longer than from two or three days to two or three weeks in one place. It followed the course of the prevailing east or southern winds, as if the virus was blown from place to place, and showed a marked partiality for the vicinity of rivers, and frequently passed by places situated at a very small distance from its direct road; from which it appears evident that its cause was taken from a deleterious atmosphere. It, consequently, cannot be considered contagious, or communicated from one to the other. It is said that whole regiments, and other corps of the army, often escaped in an extraordinary manner, while intermixed with those who were suffering extensively, and the great predisposing cause seems to be unknown.

The symptoms were numerous, as the cases were also numerous, and of great variety. The attack was generally ushered in by a feeling of fulness and pain in the stomach, and swelling of the abdomen, with sickness, and a desire to go to stool. Then vomiting and purging of a pale thin fluid, without much taste or smell, great anxiety, oppression, and a constriction about the heart and præcordia, thirst, and internal heat.—Then severe cramps, beginning in the fingers and toes, thence extending to the wrists and fore arms, calves of the legs, thighs, abdomen, &c.; the pulse sunk at the wrist and temples, and at last could no longer be

felt, or was merely perceptible by slight fluttering; the respiration laborious and hurried, with sighing; the skin grew pale, shrunken, cold, clammy and damp, bedewed with large drops of sweat, discoloured, and of a leaden, bluish, purple, or livid hue; the eyes sunk, fixed, and glassy, covered with a thick film, and surrounded by dark brown or black circles; the mouth dry and parched; the tongue bluish, or white, and faltering. The prostration of strength was sudden and great; and in attacks of extreme violence, the patient was soon reduced to a listless state, and had no longer strength for either full vomiting or purging, but insensibly sunk in death, or was carried off during a repetition of spasms, within four, six, or twelve hours, and sometimes within one hour from the first attack.—Vomiting was generally the initial symptom, though it was frequently attended with purging or spasms. The discharges, by vomiting and stool, were enormous in quantity, and generally watery and tasteless, though they were sometimes sour, green, dense and viscid. In no instance was feculent or bilious matter passed off at the commencement of the attack. The chocolate coloured fluid, which occurred, was generally a fatal omen. The disease was vast in extent, various in its forms, and a variety of symptoms occurred. In many places it approached the common cholera of the United States. From the last accounts, it is said that this disease is still spreading, and has already reached the distant islands of the Pulo-Penang and Mauritius; and there are fears among some of the medical faculty, that it may still extend to the United States of America. The practice made use of was various; if possible more so than the phenomena of the disease. The patients were hurried out of the world, in many instances, so soon as totally to exclude the use of medical aid. In some instances the poor victims fell down, as if struck by lightning, and instantly expired. A material advantage was gained by an ear-

ly application of proper medicines. Bleeding was practised, to the amount of from twelve to twenty or thirty ounces at a time; and this is said to have proved the most valuable remedy. In addition to which, diluents, powerful anodynes, and stimulants with calomel, followed up by mild laxatives and tonics, were administered. Calomel, it is said, did not display any specific power in checking the disorder; and there was not time for the use of cantharides to prove of any service.

Does it not appear from the various symptoms of this epidemic, that an acid did exist in the alimentary canal, which acid was communicated there from the atmosphere, in the various ways in which pestilential fluids are deposited in the stomach and intestines? Does not the want of bile in the evacuations, both up and down, in the first stages, which is said to have been always absent from the evacuations, tend much to induce us to believe that the disease was not caused by an increased and vitiated state of the bile? but on the contrary, do not the green, viscid, dense and sour evacuations, tend much to induce us to believe that it was caused by an acid existing in the alimentary canal?

Although the treatment was various, the use of alkalies does not appear to be mentioned as one of the various methods of cure made use of. When blood letting was used, would not the addition of a plentiful and proper use of alkaline remedies have greatly assisted nature by allaying the vomiting and irritation, and thereupon changing the evacuations to such as were downwards, only, and thus checking the violence of the disease?

It appears to me that this disease assumed symptoms of the cholera of the United States, of the bilious remitting fever, of dysentery, of diarrhœa, &c. which

symptoms are discovered in their most malignant forms and stages. In many instances, they say, it was difficult to know by what name to call it. Does it not appear reasonable to say, therefore, that they are all modifications of the same disease? that they arise principally from one common cause existing in the alimentary canal, which is communicated there in various ways and forms, which give rise to the many disputes and altercations respecting the primary, predisposing and proximate cause of diseases, &c.? and that a similar method of treatment, in many respects, may prove advantageous and correct in performing a cure?

Considering all the circumstances of this epidemic, (*cholera morbus*,) I can form but one opinion of its cause in the alimentary canal, which appears plainly, in my view, to consist of the various forms of nitric (or septic) acid, taken into the system (in the various ways before mentioned in this work) from the atmosphere.

We readily see that diseases differ in other countries from those existing in this, inasmuch as they are more malignant and more frequent, being caused by a greater quantity of pestilential virus; but we cannot see wherein this pestilential virus can differ in quality or substance, in different countries.

Cholera morbus is, by all authors, meant to signify a disease which shows itself by puking and purging. It will appear evident, to all who pay attention to the circumstance, that an increased secretion of bile is not always observable in cases of this disease; but that, on the contrary, this secretion sometimes seems diminished, and when the evacuations are tinctured or become mixed with bilious matter, it is, by many, counted a favourable symptom. It does not, there-

fore, appear that an increased secretion and vitiated state of the bile, is absolutely necessary to produce this disease; consequently the cause must be found in some other substance. It is of but little consequence to the distressed patient, or even to his physician, at the time when he is called in haste to relieve the pain and excruciating distress of the patient, how, or by what means did the cause of his disease take possession of the alimentary canal. It is, however, all important to know what the substance is that creates this distress, and what the remedy which will be most likely to destroy this substance, and relieve the vomiting and sickness of the stomach, which, if not accomplished in the space of a few hours, must terminate the life of the patient.

We will suppose, then, the cause of this vomiting, with all the other alarming symptoms, to be an acid existing in the stomach and intestines, which, by its stimulating effect, produces all this mischief, and which, notwithstanding it is thrown out of the alimentary canal by vomits and purges, may still continue to collect there in various ways. The first thing to be done, is to use all means possible to allay the vomiting and irritation of the stomach; for which purpose, many have been in the habit of giving large and repeated doses of calomel, and also emetics; which practice is at this day approved of by many of the medical profession. I will only add what I have experienced in the result of this practice—that is, that calomel or any other laxative was immediately thrown out of the stomach by vomiting, and that it increased the distress, instead of lessening it. And when emetics were added, they usually operated with violence, produced a sudden and unavoidable prostration of strength, and, notwithstanding all efforts to the contrary, the patients sunk under all the horrors of their disease. I cannot, therefore, in this stage of cholera

morbus advise either of these remedies. Venesection has been used in this stage, in many cases, with most satisfactory success; and many place dependance on it. There are some cases where it will not be proper, and others in which it will prove highly beneficial. This must be left to the judgment of the attending physician.

Alkalies are getting very much in use, in the practice of the most respectable of the medical faculty, and indeed of all, who agree that this, with other diseases called bowel complaints, is caused by an acid existing in the alimentary canal. They are given without acids, and are also combined with acids.— They are also given so as to cause effervescence in the stomach, by giving first the alkali, by itself, and then the acid. They seem to have a happy effect in allaying the irritation of the stomach, and in checking violent vomiting. They are used without any hazard, even when they are brought up immediately by puking. Their operation has been stated under the head of dysentery. They are used in the form of an enema, also to great advantage.

Opiates have also been proved to be a valuable remedy in cholera, as they will, from the smallness of their bulk, frequently be retained in the stomach, when other articles will not. They may be combined with alkalies, and thus prove doubly useful; and may also be injected (per ano) to remove urgent symptoms, and to transfer the patient from a state of torture to that of ease. They are often joined with aromatics and used with much benefit. Flannel cloths, wet with tinct. opii, and spirits of gum camphor, or even bruised poppy heads in spirits, applied warm to the region of the stomach, often prove an additional means of stopping the vomiting and allaying irritation. When the spasms are found to be violent, the quanti-

ty of alkalies and opium may be increased to three or four times the usual dose ; to which may be added gum camphor, musk, or aqua. carb. ammonia, (or spirits of hartshorn,) repeating the doses as often as occasion may require.

The warm bath is often very essential in quieting the spasmodic cramps, and will frequently stop the vomiting. It should not be omitted in obstinate cases of *cholera morbus*.

Blisters on the stomach will often prevent inflammation, by stimulating the external skin, and by sympathy affecting the membranes of the stomach, seem to check the retching and vomiting ; although they must not be solely depended upon, as their operation is too dilatory to prove a certain and speedy remedy in this disease. When the vomiting has subsided, some gentle aperient, such as super. tart. potass (or cream of tartar) rhubarb and magnesia, or jalap and soluble tartar, may be used, to carry off the acrid matter which may be remaining in the intestinal canal. Sal. soda and the acid of lemon, as an effervescent draught, with small doses of opium, every six hours, or camphorated tincture of opium, in its stead, may be used to much advantage, in this stage of the complaint.

When the puking entirely subsides, and a diarrhoea continues, which debilitates the patient, a moderate use of astringents may then be commenced, such as are mentioned under the head of diarrhoea, to which may be added small doses of alkaline salts, and also tonics may then be used to advantage, which tend to accomplish a speedy recovery, and prevent a relapse, or an unfavourable change into some chronic disease.

The cholera morbus of children is attended with more difficulty than that of adults. *Rush* recommends mint and marsh-mallow tea, black-berry roots infused in cold water, together with a decoction of the shavings of hartshorn and gum arabic, as demulcents. *Clysters* of flax-seed tea, or of mutton broth, with a few drops of liquid laudanum, give ease and produce useful effects. When the violent symptoms subside, cordial medicines should be given, such as decoction of bark, with nutmeg, port wine or claret with sugar and water, mace, cloves, nutmegs, cassia, &c. The diet may consist of almost any thing that a child's appetite may crave, such as mutton broth, sago, soups, as recommended for dysentery, and even broiled salted shad, mackerel, or salmon; but by all means avoid warm bread and lean meats, decayed and unripe fruits; and, as soon as possible, resort to passive exercise in the pure country air.

The compound called Vought's Anti-Dysenteric Medicine, is offered as a remedy in cholera morbus. It is directed to be taken in vinegar or lemonade, (which are considered the best vehicles during the efforts to vomit) every fifteen minutes. Some cases may require the use of it oftener, and require the doses to be larger. I will, therefore, mention that it may be given, in urgent cases, every five minutes, and the doses may be increased to double the quantity, if necessary, without hazard. In some cases it may remain in the stomach better when given in salt and water, and if in this way it is also rejected, it may be given in paregoric, or mint tea, or spirits of camphor, &c. Should it be puked up for even two or three hours, it ought still to be continued; and perseverance will prove its benefit in this disease. It operates by destroying the cause, and allaying the irritation of the stomach. It will also prove useful in starch injections, to be used (per ano) till the violence of the symptoms

have subsided, as mentioned under the head of dysentery. Its use in this disease has been acknowledged by physicians to have proved of the utmost importance, as instances have occurred of violent *choleras* being checked by having this medicine in the family, when in many instances the disease would have destroyed the patient before a physician could possibly be obtained to administer relief. This has particularly been the case in country situations, where physicians are not to be obtained at a minute's warning. Many families who are acquainted with its virtues, always keep it on hand, and acknowledge its family benefits, by speedily relieving, and by its use not requiring a heavy doctor's bill. Those who have used it can testify to its virtues.

The same cases occur on board of vessels, where the means of relief must be at hand, or death prove the consequence. Many captains of vessels can testify to its important use to their crew, and those who have once taken it to sea with them, make sure to obtain it if possible thereafter.

METHOD OF PREVENTION.

THE means of preventing cholera morbus are similar to those before mentioned under the head of dysentery. When the disease becomes prevalent, or epidemic, take the precaution to remove to a healthy situation, where there is a free circulation of pure air. Use cold bathing every other day; change the dress as the weather changes: cleanliness, both as respects the skin and dress, and also the diet, will add much to prevent this disease. A moderate quantity of salted provisions in summer months, and abstinence from fresh lean animal food, will prove beneficial. Use a milk and vegetable diet. Avoid overloading the

stomach with fruit, or too cold drinks. Avoid costiveness, by using occasionally some gentle cathartic medicines. Avoid sudden exposure to heat, cold, and moisture, and also the night and damp air. Use alkaline drinks, and frequently alkaline draughts before eating in the morning, with moderate but not violent exercise, and abstain from dissipation and intemperance, which precaution might lessen the number of choleras considerably in the United States.

Case of Cholera Morbus, treated by giving Calomel and Emetics.

THE following was a case which came under my observation, in the fall of 1821. He was a man about fifty years of age, who had always been in the habit of leading an active life, and of late years was supposed to have used more spiritous liquors than were beneficial to his health. He was a man of a small size, light complexion, light hair, and large blue eyes. He was first taken, about the middle of the day, with a pain in the head and bowels. For present relief, he drank a small glass of brandy and water. About three o'clock, a vomiting commenced, which consisted of the food which he had taken that day for his breakfast and dinner. At five o'clock, a vomiting and purging of matter tinged with bile, attended with great distress, were the prevailing symptoms, which continued (at least every hour) through the night. At sunrise he first sent for a physician, who immediately gave him a large dose of calomel, which was rejected as soon as he took it. Another dose was then given, some of which he retained in his stomach. I called, for the first time, to see him, about nine o'clock that morning, and found his physician at his bed-side, in the act of giving him some more mercury. I felt his pulse, which I found to be quick and small, consisting

of about 110 beats in a minute. He was almost constantly vomiting, or retching to vomit. The fluids discharged by vomiting were enormous in quantity—sometimes sour, and green, like infusion of green tea, at other times thin and watery, consisting only of the drinks he had taken. His eyes were sunk in their sockets, and appeared fixed and glassy. His mouth was dry and parched, his tongue white and faltering, and his voice low and hoarse. He seemed listless and stupid, and was under the impression that he must still evacuate a load of noxious matter, which, he said, caused in his abdomen a disagreeable and uneasy sense of fulness, although he had already been puking and purging for the space of twenty hours. His skin was pale and clammy, his extremities were cold, and large drops of cold sweat appeared on many parts of his body: he was also attended with frequent spasms and tremors.

I asked his physician what had been given. His reply was, that he had taken large doses of calomel. I mentioned the propriety of giving him the sub. carbonate of potass, and the acid of lemon, in a state of effervescence, for the purpose of checking the vomiting, and opiates, for the purpose of allaying the irritation of the stomach. My opinion was in a manner treated with contempt, and the reply was, that he would soon settle the patient's stomach, by giving him an emetic. I expressed my disapprobation of the course of treatment resolved to be used, and observed that persons in his situation would evacuate bilious matter till they died, or till they no longer had strength to raise it, if means were not used for their relief; and when they could no longer vomit, it would be out of the power of medicine to save them. I called again to see the patient in the evening of the same day, (by a particular request of some of his friends) and found his symptoms increased, his pulse 130, his strength

much exhausted, his skin shrunken, pale and discoloured, in spots of a bluish or livid hue. His vomiting of bilious matter was not so immense, but his retching to vomit was continual, with scarce an interval of more than one minute, while I remained at his bed-side. I inquired if he had taken an emetic, and was informed that he had not yet taken it, but was going to take it that evening. I then made another reply, and said it would in my opinion go hard with him, if he took an emetic, as I supposed it impossible for him to undergo its operation. The alkaline medicine was not given in any shape whatever. The doctor, as I understood, returned in the evening and administered an emetic, which operated three or four times, by vomiting a little bilious matter, and powerfully per ano, or otherwise, produced an involuntary discharge by stool; and after which, in defiance of all the brandy, wine, bark, and opium that was given him, he expired the same night, at three o'clock, in the most horrid and excruciating distress, it being only about thirty-six hours from the time of his first confinement.

Case of Cholera Morbus.

I WAS called to see a young man 18 years of age, in East-Rochester, Sept. 1822. I found him with a violent puking and purging, and a high fever. He had been eating squashes, which were first thrown off his stomach, after which, acid eructations and bilious vomitings occurred, with a copious discharge per ano. I commenced the treatment by giving him ten grains of sub. carbonate of potass, in as much vinegar as would cause an effervescence, every ten minutes. The first three doses were almost immediately rejected, but the fourth was retained in his stomach. His vom-

iting was then nearly stopped, although the draught was continued for one hour and a half. At the expiration of this time, his stomach was so quieted as to retain any medicine, or a little food. I gave him three bilious pills, which soon operated (per ano) freely.—The next day I called to see him, and found his only complaint to be that of a frequent discharge by stool. I then ordered five grains of sub. carbonate of soda, with two of sub. carbonate of potass, every two hours, and also one grain of opium every six hours, which was continued till the third day, when I called and found him walking about the yard. He now complained only of weakness: I ordered him to make use of a moderate quantity of port wine every hour, to which I added four grains of the powdered leaves of the eupatorium perfoliatum. He continued this prescription till the fifth day, when he laid aside all medicine, and attended to his ordinary business. I again saw him on the tenth day from his first attack, and he informed me that his health was completely restored, and he felt well for business, and as strong as ever.

Colica or Cholic.

THIS is a disease of the lower region of the abdomen, particularly around the navel, accompanied with much distress and pain, and with a spasmodic contraction of the muscles of the abdomen. It frequently occurs with those who lead a sedentary life, who are subject to costiveness and hardened fæces, rheumatism, cold, and moisture, and those of a bilious habit, &c. The existing cause seems to be similar to that of other bowel complaints in a greater or less degree. It has received a multiplicity of names, as,

Bilious cholic, when there is a bitter taste in the mouth, thirst, febrile heat, and a vomiting of bilious matter and costiveness.

Flatulent cholic, when there is costiveness, griping in the bowels, a rumbling noise, distention of the stomach, pain severe, with an inclination to vomit, &c.

Hysteric cholic, when there is nausea and sickness at the stomach, severe spasms, costiveness, and dejection of spirits, &c.

In all cases there is evidently an irritating substance in the alimentary canal, which produces a spasmodic contraction of the abdominal muscles, and sometimes violent inflammation, coldness of the extremities, distention of the stomach by a collection of wind, vomiting, obstinate costiveness, and sometimes an evacuation of fæces by the mouth, (a very disagreeable and distressing symptom) called the iliac passion. The pain shifts its situation, and is not confined particularly to one spot.

This disease is called cholic, from its being more directly seated in the intestine called the colon, than any other. It is called by such a variety of names, on account of its symptoms, such as, *colica biliosa*, from excess of bile in the bowels; *colica calculosa*, from stony substances in the intestines; *colica febricosa*, or cholic with fever; *colica flatulenta*, cholic from wind; *colica misenterica*, from diseased misentery; *colica nervosa*, nervous cholic; *colica pituitosa*, or spasmodic cholic, &c., that were I to undertake an investigation of the different affections, I should not expect to make my readers understand any thing about them distinctly. It would be like confounding languages, in my view, and of no use whatever.

Such pains as occur in cases of cholic, in every sense of the word, are sometimes found to occur in cases of dysentery, diarrhœa, cholera morbus, &c. and were it not for costiveness alone, it would sometimes induce

the most accurate observer to doubt whether to name these morbid symptoms cholic, or some other bowel complaint. On the strength of the constitution, on the power and quantity of the offending cause, and on the method and time of application of the remedy made use of for relief, greatly depend the malignancy of the disease, and the part or parts most affected, and also the period of time in which the disease may continue.

In some cases of malignant disease, the blood, the brain, the nerves, the muscles, the bones, the skin, the liver, the stomach, the heart, and arteries, and indeed every part of the human system, is morbid and impaired. I would ask by what name would you call this disease? *Rush*, says there is but one fever, however different the predisposing, remote, or exciting causes may be. He founds this proposition upon the supposition that all the supposed variety of fevers have but one proximate cause. We do not go thus far and state that there is but one bowel complaint. There are primary affections of the bowels produced by local and accidental injuries. But I will beg leave to ask of those who have had superior advantages for obtaining a knowledge of the diseases of the human family, if bowel affections in general, are not modifications of one and the same disease? if they are not produced in substance by one and the same proximate cause? and if they do not generally yield, (if they yield at all) to a similar method of treatment? The whole artificial and nosological arrangement of diseases, as well as the baneful consequences of the particular names of disease, are, upon the whole, a great bugbear, calculated only to frighten the illiterate and timid part of community. And do they not prove as baneful to the medical world, as they do to the community at large? The only true prescriptions in medicine are those made to conform to existing cir-

cumstances. Do not the seeds of disease always exist in the bodies of men? The basis of our atmosphere is composed of them. In it we eat, we drink, we sleep, we walk, and in it we daily live; and is it not absorbed within us? Do not the seeds of disease exist in the body in a dormant and harmless state, till excited to action in various ways, which produce debility, when they operate and collect in different parts of the system, and become the cause and food of disease. If we can assist nature in reducing or destroying this cause before it destroys the excitability of the system, we are instrumental in performing a cure. If this is not accomplished, either by nature or art, death must inevitably be the consequence.

CURE.

BUT I am wandering from my subject, and must return to the cure of that disease called cholic. When it appears with the ordinary symptoms of costiveness, severe pain, and even vomiting, the first thing needful is to stop the vomiting and allay the pain, which we well know if not soon accomplished, must wear out the excitability of the system. When the pain is excruciating, which is generally the case in cholic affections, venesection is the first means to be attempted for relief, which may tend to prevent inflammation, and relax the spasms of the bowels. To settle the stomach, and allay irritation, alkalies and acids should be given in a state of effervescence, or a double dose of Vought's anti-dysenteric medicine may be given, which operates by removing the spasmodic constrictions of the intestines, and neutralizing the acrid cause of the irritation. If the patient is of a weak and slender habit, the venesection may be omitted till a trial of other means is made use of, such as warm fomentations, injections of a laxative, oily, and alkaline nature, and the warm bath, opiates, &c.

When the vomiting abates, and as soon as a laxative will remain on the stomach, it must be administered; and it should consist of such materials as will operate as speedily as possible. The *ol. recini*, (castor oil,) in large doses, has been generally used for this purpose, and also calomel and jalap, in obstinate cases of costiveness. Calomel has done some mischief in some instances, by lying in the stomach without operating. I would therefore either prefer bilious pills, or large alkaline draughts, followed up with small doses of olive oil every fifteen minutes, till the bowels are moved; at the same time, assisting the operation by enemas of *ol. recini*, decoction of senna and manna, or any laxative injection, till the desired operation is accomplished, and until there is a complete passage through the intestinal canal. Should these means fail, after pursuing them for several hours, injections of tobacco, either as infusion or smoke, may be used. Blisters should be laid on the region of the belly, and the whole abdomen bathed with tincture of cantharides and strong hot vinegar, mustard, &c.

In obstinate constipation of the bowels, charcoal, in great quantities, is lately much recommended. The following is an extract, to show the efficacy of it in obstinate constipation of the bowels, communicated by William C. Daniell, M. D. of Savannah.* He adopted the use of it upon the recommendation of an English writer, after using the various treatment of bleeding, warm bath, mercurial purges, aided by jalap, castor oil, and other active articles of this kind, with blisters, &c. all without success. He then gave a table-spoonful of charcoal every half hour, for seventeen hours, when first his patient's bowels were freely evacuated. The discharges chiefly consisted of thick mucus, coloured by the charcoal. It was

* Philadelphia Medical Journal, vol. v. no. ix. art. xi. p. 119.

then discontinued, and castor oil substituted, which latter evacuated but partially. He had recourse again to the charcoal, which was continued until the patient recovered.

He gave it to a lady in the third or fourth month of conception. She had nausea and frequent vomiting—had used many articles without retaining any of them on her stomach. She had been in this situation for several weeks, and was much reduced. She slept little, her pulse feeble, bowels costive, and tongue furred. Charcoal and lime water were directed to be taken in small doses, most of which were retained. Her bowels were evacuated, her stomach gradually acquired tone, her tongue assumed a healthy appearance. Small quantities of light nutritious food could now be retained, and she soon became enabled to engage in her domestic duties.

In fifteen cases of obstinate constipation of the bowels, the charcoal was administered with complete success; sometimes, however, not until the third or fourth day of the disease. When it does not wholly relieve, it always mitigates the pain within six or eight hours. It operates to my satisfaction, by its chemical union with the acrid contents of the intestines, in the same manner as alkalies are known to operate.

Charcoal is carbon and oxygen. It contains more carbon than any other substance yet known, excepting the diamond. When charcoal is burnt, the residuum is chiefly alkali, either potass or soda, according to the vegetable which is incinerated. It, however, contains but a small portion of alkali, according to its bulk, which accounts for the great quantity to be used, in order to have the desired effect.

In relation to the dose, it is advised to be given as freely and as frequently as the stomach will allow,

without throwing it up. It is usually given in doses of from one to three table-spoonfuls every half hour, in lime water; and it frequently takes eighty or a hundred spoonfuls to have the desired effect. The lime water, no doubt, has a tendency to assist its operation, as respects the extent and rapidity of its effects. I have used sub. carbonate of potass and soda in these cases, with almost the same success, although I have never pressed this remedy so long as eighteen hours, before it had the effect of completely evacuating the contents of the bowels. When I have given it in small doses every fifteen minutes or half hour, I have generally found it to lull the irritability when nothing else would, in the course of two or three hours, and to relieve the nausea and vomiting; and when I continued to press the use of it, combined with some gentle cathartic, and at the same time using it in the form of an enema, I always found it to remove the disease within ten or twelve hours. The existence of slimy, mucous and acrid matter, which in some cases line the whole extent of the bowels, and which prevent the action of common cathartics upon them, needs some principle to decompose it; which, when accomplished, renders the bowels in such a condition that they may be easily acted upon by ordinary cathartics. Such is the operation of alkalies, and such is the operation of charcoal, when administered in sufficient quantities, whereby its alkalescent quality may have the same effect.

I do not mean to condemn the use of charcoal in choleric and constipation of the bowels. Its efficacy is an additional proof of the benefits derived from the use of alkalies in bowel complaints. The charcoal of commerce is rudely prepared, and contains many foreign substances. Before it is subjected to chemical or medicinal purposes, it should be long exposed to a full red heat, without exposure to air, for the purpose

of expelling those foreign admixtures which it usually contains when prepared in the ordinary method. I have given one ounce of the medicine I have prepared for bowel complaints, in the course of four hours, which completely evacuated the bowels, and relieved all distressing symptoms; which quantity contains more pure vegetable alkali (prepared by the incineration of vegetable productions) than is contained in thirty or forty spoonfuls of charcoal; and does it not appear reasonable to suppose this would remain in the stomach when charcoal would be thrown out by vomiting? I hope that charcoal will prove a certain remedy for this dangerous and obstinate disease; but I cannot see in what respects it can be superior to the use of alkaline preparations, except in so far as its highly antiseptic properties may be of use in preventing the process of mortification.

The all-important object, in cases of cholic, is to remove the spasmodic constrictions and flatulency, and also to produce a free evacuation by stool, and allay the vomiting and nausea; which, when effected by some of the various means here advised, the patient is left in a convalescent state, to be treated in the manner which has before been mentioned as proper for those who are in the convalescent stage of bowel complaints. Particular caution should be observed not to suffer the bowels again to resume their costive state, or the patient to make use of any flatulent substances for his diet, or to overload his stomach with green vegetables, such as peas, beans, corn, &c. or unripe fruits of any kind.

PREVENTION.

THE means of preventing cholic are those which have also been advised to prevent all bowel complaints, but those more especially that are used to prevent

costiveness. Females who lead a sedentary life, and those who are subject to affections of this nature, will find them to occur less frequently by using some cathartic medicine, such as anti-bilious pills,* or something of the like kind, once a week, or oftener if necessary.

Many persons are in the habit of using brandy, rum, or gin, to prevent cholic; and sometimes, when they feel pain in the abdomen, they will add to spiritous liquors red or black pepper, cloves, ginger, &c. This practice has in many instances increased the frequency of this disease, and when used as a remedy for relief, has sometimes caused such a constipation of the bowels as proved beyond the power of medicine to remove; and the unfortunate patient, when drinking as he supposed the cup of relief, was in fact drinking the poison that should cause his death.

Thrush, or Aphthæ.

THERE is an affection of the stomach and bowels occasioned by an acid, called thrush, or aphthæ, because there are found to be ulcers or pimples in the mouth and fauces. It appears to be a symptomatic affection, and was it not for the eruption, it might have passed off under the name of diarrhœa, and it may be considered a modification of that disease.

* To those prepared under my direction, alkalies are added, which answer the purpose of a laxative, and also neutralize the acid in the alimentary canal, which renders their operation much less painful and irritating, and without griping severely, or occasioning tenesmus. They contain no mercury, and can be used with safety in all situations, and under all circumstances, that cathartic medicines are required.

It is first generally observed by an uneasy sensation, or burning heat in the stomach, which gradually increases in violence. Then, small pimples show themselves on the edge or on some part of the tongue, which gradually spread all over the inside of the mouth and fauces, which occasion such a rawness, that the patient can with difficulty take any solid food or any spiritous liquors, without much smarting and pain. These symptoms continue for several days, when the cause begins to show itself by acid eructations from the stomach, and a vomiting of acrid phlegm, when also a diarrhoea commences, with all other symptoms, more or less, which generally accompany a bowel complaint, according to the length of time it has been suffered to run unmolested, and according to the quantity of the offending matter existing in the stomach and intestines, and also the remedies employed to relieve the excitability and destroy the offending cause of the disease. The eruption sometimes increases till it extends from the mouth to the anus, when the rectum becomes also affected, at which time, it proves difficult to make a cure. Chronic thrush is most apt to attack elderly persons, and those of a shattered constitution, who live an indolent and intemperate life.

The thrush in infants is also caused by acidities in the stomach and intestines, which substance is thought to be produced there in various ways, such as worms in the alimentary canal, or bad milk, on account of the ill health of the mother, or improper diet, or anxiety and violent passion, &c.

It is stated by Dr. Coleman, in his remarks on the causes and nature of the disease called the sick stomach* in the State of Ohio, that it originated from

* Philadelphia Physical and Medical Journal, No. VIII, Vol. IV. pages 327, 329.

the deleterious substance of some vegetable poison, by the cows eating of it when grazing. That the milk, butter, beef, or the flesh of animals, killed while labouring under this disease, will again produce the disease in those who eat of their flesh. Sucking calves which have no food but the milk of the cow, which eat of this vegetable, will show the peculiar symptoms and often die of the disease. Persons making use of the milk or butter from the same cow, will become affected. The milk given to domestic animals (when the sucking calves show symptoms of it) will produce the disease upon them, and this often without the cows appearing much affected by the disease, a milch cow seldom showing many symptoms of it, when regularly milked, the poison appearing to pass off principally by that secretion.

May it not also be so in relation to the deleterious milk of a mother or nurse? She may herself not experience many symptoms of disease, in consequence of living upon unwholesome food, and in a corrupt atmosphere, because the poisonous quality may pass off in the secretion of her milk; but the child that sucks her breast will receive the seeds of disease from her milk, and hence arises the cause of many infantile complaints, such as, thrush, erysipelas, excoriations, and ulcerations, tormina, vomitus, diarrhoea, eruptions, &c. &c. all of which depend more or less upon acidities existing in the alimentary canal, and require a similar treatment, to perform a cure.

Thrush with infants sometimes proves very dangerous, especially when the disease is neglected and suffered to run on without the assistance of proper medicines.

The first step to be taken for the purpose of curing this complaint, as well as all others, should be to de-

stroy and expel the offending cause, which, being proved to be an acid in the alimentary canal, must be destroyed by an alkali, and expelled by a gentle cathartic. Such alkalies and such cathartics as are advised under the head of dysenteries, to remedy the evil of their cause, will be proper articles to accomplish this desired effect.

To remedy the evil arising from the eruption in the mouth and tongue, gargles and washes should be used, such as, the sub. boriate of soda, (or borax) in cold water, or it may be used in form of powder, mixed with loaf sugar, which is a very cooling and healing application for removing aphthous crusts in the mouth of infants. To the solution may be added a little honey, which renders it more balsamic. When the anus is excoriated, it may also be used as an enema to advantage. A solution of alum, in rose water, is also used to a good effect, as a gargle. A weak solution of the sulphate of zinc has been also used, or tincture of kino, tincture of myrrh, tincture of catechu, &c. The *nigella*, (or mouth root, or gold thread, so familiarly known) is found a very valuable remedy in those cases of thrush. It is found in wet, swampy situations, in many parts of the United States. The stems are erect, with three circular and scalloped leaves at the end of each stem. Its blossoms appear in May, are white, and only one on each stem. The roots are the parts used as medicine, which are like thread, and run through the ground in every direction, are of a bright yellow colour, and possess an astringent and bitter taste. The roots should be bruised and steeped in hot water for a few minutes, when to the infusion may be added a little pure honey, which may be used cold, instead of many other applications to sore mouth in cases of aphthæ and cankerous sores in the mouths of children, to perhaps a greater advantage than any other medicine. If the

disease is kept up by the ill health of the mother, on account of her milk being rancid and acrimonious, the child must be weaned, or receive its nourishment from a nurse who enjoys good health, and who lives on a rich and wholesome diet, and the necessary medicines given to correct the acidity of the child's stomach, and allay the fever, such as mild laxatives, alkalies, and absorbents, as before mentioned for this purpose. And if a chronic diarrhœa is the most troublesome to overcome, such articles as should be used for that disease, would be the most proper remedies also in this. Chronic diarrhœas, in children, are often remedied by the use of the cold bath, if it is properly attended to. Children have been relieved by its use, together with the use of alkalies and anodynes, who have been subject to this difficulty for two or three years. The method of using it should be in the form of a shower bath, which is easily constructed, viz. by making a box, water tight, that will hold about one pailful of water, and boring the bottom of it full of small gimlet holes, and placing it in some convenient place in the garret, about one or two feet higher than the child's head. This may be used every morning, by pouring into the box about four or six quarts of cold water, and at the same time having the child immediately under it. This remedy has been used with great success in Maryland and Virginia, as communicated by Dr. William Hayes to Dr. Benjamin Rush.*

When a child is attacked with *thrush*, which appears of a malignant nature, and which threatens to terminate in gangrene, blisters should be applied immediately; and I would then advise the use of pure charcoal, in powder, to be given in soda-water or yeast. I have not only used this remedy as a draught, to be taken by the mouth, but I have used it as an enema,

* Philadelphia Medical Museum, vol. i. p. 427.

(per ano) with a most astonishing effect. I have used this remedy when all hopes of any means to save the life of the child were despaired of. I have succeeded when I had not the least idea, myself, of its doing any good, and was at the same time using it in very large quantities, merely for the sake of experiment, thinking that the child must die in its present situation, and have pressed the same remedy to such an extent, as would seem sufficient to kill a child in perfect health, when at last, to my greatest surprise, the child recovered under the remedy.

I can readily conceive that many lives are lost by the timidity of physicians, and want of the knowledge of certain remedies in the hour of difficulty and danger. When the system is under the extreme pressure of disease, it sometimes requires more medicine to relieve it, than at others would prove sufficient to destroy life. It is at those critical times that the judgment and perseverance of the physician prove to be of the most importance.

The lesson that I learnt first on this subject will never be obliterated from my mind, the longest day that I may chance to live. It occurred while I was a student under the direction of William McClelland, M. D. of the city of Albany, who was a faithful practitioner of medicine in that city for thirty years, and a graduate of the university of Edinburgh. Permit me to impose on the patience of the reader with the following account. In January, 1811, the doctor was called to see a doubtful case of *cynanche trachealis*, (or croup) in the evening, about eight o'clock—it being a child (about fourteen months old) of Wm. Gordon, grocer, near the lower end of Old Court street, (now South Market) Albany. He drew a little blood from it, and returned with the following directions, viz.: that I, being then the eldest student in the shop,

should go down to Gordon's, and take with me thirty grains of the tartrate of antimony, and give the child one grain every ten minutes, till it puked or died. I accordingly followed my orders, although I thought it a harsh prescription. I found the child in a state of stupor, with great difficulty of breathing, some spasmodic affections, extremities cold, pulse frequent, eyes sometimes closed, thirst, anxiety, and other febrile symptoms. I continued giving the antimony every ten minutes, (expecting that every dose would be the last, as the child then showed every symptom, in my view, of immediate suffocation) till I had given twenty grains of antimony, without any operation, or the least apparent effect whatever, only as I thought an increase of distressing and painful symptoms. At this time I was at a loss what to do, as I was under the impression that the doctor had no idea it would take that quantity to operate as an emetic, (six grains being a sufficient dose to operate on an adult.) I, however, not feeling the responsibility for the life of the child on my own mind, was determined to follow orders at all hazards, and again resumed the same course, till I had given twenty-nine grains of the tartrate of antimony; and when about to give the thirtieth dose, the child appeared to be suffocating and breathing its last, when, to my great relief, it commenced vomiting, and continued so to do for more than one hour, without an intermission of more than five minutes; and the quantity of phlegm discharged seemed greater than the stomach could contain. The child then broke out in a profuse perspiration, the febrile symptoms abated, and the antimony operated as a powerful cathartic.—The doctor came down early next morning, when he found me by the side of the cradle, where I had spent the night, watching every moment to see the distressed little infant close its eyes in death. He gave it a dose of paregoric, and it went composedly to sleep. It was roused at the expiration of two hours; a deco-

tion of seneka was given it every two hours in small doses, and in eight and forty hours it was again restored to health, and needed no other medical aid.

Magnesia is considered a good medicine to be given children in cases of thrush. The calcined magnesia is generally the best preparation. It contains more magnesia in a given bulk than the carbonate, it being in a measure deprived of its acid. It neutralizes the acid of the stomach without any extrication of gas, which is sometimes troublesome when the carbonate is given. But, on the contrary, when there is much nausea and vomiting, the carbonate proves to be the best preparation, as good effects arise from the gas evolved, by relieving these disagreeable sensations.—It may be given in sugar, spirits of cinnamon, and water, in such doses, and as frequent, as occasion may require.

To restore strength and tone to the system, such tonics as are advised in the convalescent stage of other bowel complaints would be proper, with a cautious diet and moderate exercise—such as chalybeates, astringents, vegetable bitters, milk, soups, jellies, rice, barley, Indian arrow root, port wine and water, &c. as the state of the system will admit.

Case of Aphthæ, or Thrush.

IN September, 1820, being called to see a child of Mr. B. of Brighton, of the age of 13 months, I found it to be a case of thrush, which I determined by the following symptoms, viz: many white transparent pimples, or ulcerous tubercles, scattered over the mouth and tongue, a slight fever, diarrhœa, and the anus

much excoriated; also, acid eructations from the stomach, &c. I gave three grains of rhubarb, with two of the salt of wormwood, every two hours, in mint water. The mother of the child being in ill health, I ordered her to wean it immediately. The child's diet accordingly was that of boiled milk, poached eggs, gruel, &c. I ordered an enema to be given every six hours, consisting of thin starch and sal soda. A wash was prepared, by steeping a little nigella in half a pint of hot water, and a little of the subboriate of soda was added, sweetened with honey, which was used with a swab to wash the mouth and fauces every $1\frac{1}{2}$ hours. The child being much debilitated, the cold bath was used every morning. This course was continued, with some little variations, for twelve days, when the child was discharged in good health, though something feeble, which was remedied by the use of a few leaves of the eupatorium perfoliatum in port wine, in about six or seven days.

Dyspepsia, or Indigestion.

DYSPEPSIA is a disease which is usually confined to persons between the ages of twenty-five and forty-five years. It is arranged by *Thomas* in class 2, of nervous diseases, and order 2, defect of vital powers. The nervous system is no doubt affected in this disease, and there is also a defect of vital powers. The same effect takes place in cases of cholic, dysentery, diarrhoea, and many other bowel complaints; and a chronic weakness is frequently produced by all bowel complaints. I therefore consider it as properly described under the head of those complaints, as in the same class and order with *tetanus*, *asthma*, *hydrophobia*, &c. It is a disease generally marked with a chronic weak-

ness, and can therefore be called a chronic disease.—Irregularity and a sedentary life, uneasiness of mind, grief, intense study, indolence, drinking of spiritous liquors, excess in venery, too frequent use of hot strong tea, tobacco and opium, overloading the stomach with stimulating food, a frequent rejection of saliva, a deficiency in the secretion of bile, much exposure to moist and cold air, and a want of moderate exercise, give rise to the exciting or proximate cause of this disease.

The symptoms of this disease are numerous and tedious, such as, loss of appetite, heart-burn, flatulency, nausea and vomiting, gnawing in the stomach when it is empty, uneasiness, pain in the side and breast, chilliness, pale countenance, languor, lowness of spirits, palpitations, vertigo, disturbed sleep, &c. Habitual costiveness is always, more or less, attended with acid eructations from the stomach, which plainly and pointedly indicate an acid existing in the stomach and intestines to be the true cause of the disease.

The method of cure, if success is to be obtained, greatly depends upon the patient's resolution and mode of living. Medicine can afford only a temporary relief, without a proper diet and disposition of time. To perform a perfect cure of *dyspepsia*, it would be necessary to adopt a complete change of living from that in which the disease originated, and by which it is kept up and continued. If the patient has been accustomed to a fashionable life, he must forsake the haunts and habits of dissipation, crowded rooms, where the air is rendered foul and unhealthy by the great number of persons inhaling it, shun alluring amusements and gambling tables, luxurious living, indolence, intemperance, and late hours.

CURE.

THE predominant symptoms of this disease are pain in the head, with sickness of the stomach, called sick head-ache. As the stomach is the seat of this disease, by means of its sympathetic connexion with the brain, (and also with every other part of the body) it causes head-ache. Acid eructations are also a prevailing symptom which strongly mark the cause in the stomach, which has already debilitated its nervous functions, and rendered the digestion of the food difficult and inactive; and, consequently, costiveness is followed by a long train of other difficulties, as before mentioned.

The first step to be taken is to remove costiveness, which is done by some gentle cathartic, such as, antibilious pills, (or females may use compound pills of assafœtida) which being accomplished, the acid existing in the stomach must then be neutralized, which is done by using alkalies, such as, sub. carbonate of potass, (or salt of worm-wood) sub. carbonate of soda, sub. carbonate of magnesia, lime water, &c. which must be continued for some length of time, to keep the stomach entirely free from acid. After the first evacuation by cathartics, they may be joined or added to the alkalies, and given in small doses so as to obviate costiveness; and still milder ones may be substituted, such as, rhubarb, senna and manna, &c. During the operation of the cathartics, thin gruel, made of oat meal or corn meal, salted a little, may be taken. The meals should be very light, and of easy digestion. After the bowels are completely evacuated, the nausea removed, and the acid in the stomach corrected and destroyed, the chronic debility remains to be remedied, and strength to be restored, which is effected by a course of tonics:

The use of tonics must first be commenced in small doses, to be increased as the stomach will admit of. There are a variety of tonics which will prove serviceable in this disease, such as, the rust of iron, nitrate of silver, tincture of the muriate of iron, tincture of the muriate of lime, acetate of lead, sulphate of zinc, extract of cinchona peru., angustura, gentian, columba, musk, &c. All these may be used, but no one should be continued more than three weeks at any time in succession, as the system becomes habituated to them, and they lose, in a measure, their medicinal effect. They should, therefore, be changed. For instance, commence with the preparation of iron, in small doses, and increase them, if the stomach will admit, one tenth of a dose every third day; and at the expiration of three weeks, leave off using the iron, and use in the same method, another tonic. It is better to change from a mineral to a vegetable tonic, and so on alternately. As the operation of vegetable and mineral tonics in some measure differ, they have a better effect on the system, to change from the one to the other.

As a mineral tonic, and especially in violent and obstinate cases, let not the solution of arsenic escape your notice. Some people are averse to the use of arsenic, because it is a medicine used to kill rats, and other obnoxious animals; but let me assure them, it is as safe a medicine as any of the aforesaid tonics, and if properly prepared, and properly used, it is in many respects superior to them all. It is necessary to produce a change of action, to effect a cure in cases of chronic debility; and preparations of arsenic stand first in the class of tonics to produce this effect. If the doses are too large, sometimes such symptoms as nausea, and a swelling in the face, or sense of fulness in the eyes, are perceived. But they are symptoms which may be occasioned by the improper use of ev-

ery other tonic, or stimulus, especially in persons who are labouring under a chronic disease. We know that the same symptoms are frequently produced by the immoderate use of spiritous liquors, which may be daily witnessed in all our cities and villages; and we may with the same propriety call liquor a poison, as to call arsenic a poison. The intemperate and idle vagabond will caution his debilitated and diseased neighbour not to use arsenic for his relief, for it will surely poison and kill him; when at the same time he is holding the poisonous cup in his hand, in the very act of partaking the deleterious draught which proves the death of thousands of the human race, where arsenic is, in reality, known to injure a single individual. I need not mention cases where the use of arsenic has proved of most decided benefit as a tonic, as there can scarcely be found a medical man of any standing in society, but can testify in its favour.

A dose of the saturated solution of arsenic should vary according to the state and constitution of the patient. Generally, we may commence with five drops, and increase the quantity to ten or twelve drops, to be taken in a spoonful of wine, or brandy and water, or claret, every six hours; and if nausea attends, divide the dose, and give it every three hours, which will obviate that difficulty and have the same beneficial effect.

As a vegetable tonic, let me recommend the use of the *eupatorium perfoliatum* of Linnæus. It is a plant which has long been familiarly known by the names of thorough-wort, cross-wort, bone-set, Indian sage, &c. &c. and it may be found in most of the marshy grounds in the United States. It is a plant which has long been used by the Indians, as an emetic, from which it received the name of vegetable antimony. It was used by them also to cure fever and ague, and

other diseases of debility, with much success. An able dissertation on this plant has been written by Doctor Andrew Anderson, of New-York. By his chemical experiments it was ascertained that it contains active medicinal properties, which are found to reside more in the leaves than in any other part of the plant. I would, therefore, advise the leaves in substance pulverized, or the tincture of the leaves and flowers in proof spirits or alkohol, as the best tonic preparation to be used in cases of dyspepsia. It has been much used in the New-York Alms-House, as a sudorific and tonic; and for an account of its beneficial effects, I will refer the reader to those distinguished practitioners, Doctors Hosack, Barton, and Mitchell. The pulverized leaves may be used in cases of dyspepsia, in doses of from ten to twenty grains every four hours, and the tincture may be used by first taking one tea-spoonful, and then increasing the dose to two or three tea-spoonfuls every four hours, as the stomach will admit without creating nausea and vomiting.

As this is an indigenous plant of this country, I will barely give a description of it, so that it may be found by any person who will pay a proper attention to the following particulars, viz: the stalk is upright and hairy, and rises from two to four feet from the ground, perforating the leaves at each joint, (from which it is sometimes called thorough stalk.) The leaves at each joint are horizontal, serrated and rough, from three to five inches long, and from one to two inches broad at their base, and gradually lessening to a very sharp point. They are of a dark green colour, and are covered with short hairs. The flowers are white, appearing in July and August—form at the termination of the branches, and produce seed in September. The proper time for gathering is when the plant is in full bloom, when it should be spread in the sun to dry,

without being exposed to rain or moisture. In this manner it may be preserved in its pure and native state for many years, when it may be put up in boxes, and pressed with a weight or screw.

During the exhibition of the aforesaid tonics, the alkaline remedies should not be omitted or forgotten: they should be given through the whole course of the cure, not only at the commencement, for the purpose of neutralizing or destroying the acid then existing in the stomach and intestines, but also for the purpose of destroying this acid as it may collect during the course of the cure. Particular attention should be paid to this part of the treatment, as the effect of all other means depends upon the removal and prevention of the presence of that substance which becomes the aggravating cause of the disease. It will also be necessary that the patient bear it in mind to prevent the occurrence of costiveness, which may be remedied by the use of one bilious pill every other night, at bed time.

It must not be expected that indigestion, a disease perhaps of some months or years standing, without any thing more than a little temporary relief, can be completely removed in a few days; and invalids must not become impatient, if after a short trial of the remedies advised, a cure is not performed. If they will with confidence steadily and patiently persevere, and submit to a proper course, they may depend upon their hopes not being disappointed in realizing perfect and substantial health. The desirable change which must take place cannot be effected in a few days—it must be done slowly. The stomach resumes its former tone gradually only, and gradual must be the means applied to effect a cure. The length of time will vary in different persons, in proportion to the violence of the disease; and it will greatly depend upon the faith-

ful attention with which the patient follows the particular advice given.

Some females labour under an unfortunate and erroneous opinion, that those afflicted with dyspepsia for some months or years can never be cured, and they are sometimes even told by their family physician, that they never can again enjoy uninterrupted and perfect health. Hence they submit to their lingering and doleful torture with impatient resignation. Their complaints and their sorrows are always heard from their tongues, and they never can have the pleasure of telling their friends that they at any time even enjoy tolerable health. But their prejudices are founded on erroneous and false premises,—the opinions of ignorant and stubborn unbelievers. Dyspepsia, in persons under the age of forty years, is as much governed by the aid of medicine, and a proper diet and exercise, as any other disease which produces debility of the human system; and all who have forsaken and will forsake the indulgences and habits that give rise to the disease, and adopt the method of cure laid down in this work, in every particular, will, I trust, become my witnesses to prove the truth of this assertion.—I shall now endeavour to point out the regimen which should be adopted in the cure of this disease; and without a particular and rigid attention to the same, all medicines will prove but a temporary relief.

Some persons are fortunate enough to find out what course of living in life is most conducive to health and old age, and abide by it; but others, although they have sense enough to find out this method, have not sufficient reason and resolution to abide by it; and these are generally the subjects afflicted with the pangs and tortures of dyspepsia. To those who wish to recover from this disease, and are under the influence of medical aid for this purpose, the following mode of diet is offered.

Bread is a principal part of our daily aliment, and is an important article to effect or prevent a cure of this complaint. It should be light, and made of meal not bolted; that is to say, the bran and flour of the wheat must be mixed and baked together, and never used while warm, or eaten before it is twelve hours old.

If corn bread be used, it should be baked thin and crisp, and eaten cold. Hot corn bread is poison to a dyspeptic person, as is also hot bread or cakes of any kind. However palatable this substance is, it proves highly injurious to the stomach, and prevents its acquiring tone more than almost any other article of our diet. Every meal in which it is taken, will more or less impede the powers of digestion in the stomach, and prevent that organ from again acquiring its proper tone. During the years of youth, when the natural vigour of digestion is constantly receiving additions to its strength, hot provisions are used without much apparent inconvenience or injury to the stomach; but with the dyspeptic person, a cure cannot be obtained or expected, so long as he indulges himself in the use of this article of diet.

The article of bread, therefore, should be at least twelve hours old, and crackers or biscuit, or boiled rice, may be substituted for a change in this part of the diet.

That kind of animal food which proves the easiest of digestion, and which perfectly agrees with the patient's stomach, must be chosen, and all to the contrary wholly avoided.

The meat of lean animals, and of those that are old and tough, are not easily digested; and as is also mentioned under the head of dysentery, the lean and muscular animal substances contain nitrogen and

oxygen, the two principles which, when properly combined, form the acid, which is the existing cause which produces the disease in the intestinal canal. This part of animal diet should, therefore, be carefully avoided; and that which is well fattened used sparingly, so as not to overload or burthen the weakened stomach, which may easily be effected by eating four or five times a day, and always rising from the table with a small meal, and never eating so much at a time, but that the appetite would still crave more. Wild meats are more easily digested, and are more tender than the meat of domestic animals; and wild fowl more so than domestic. They should always be preferred, when they can be obtained, for the animal part of the diet; such as, venison, rabbits, squirrels, ducks, partridges, or pheasants, quails, wood-cocks, snipes, robins, &c. &c.

When beef is used, the fat and tender sirloin should be chosen, which should not be cooked or roasted till all the juice is evaporated, but is rather preferable in a rare state.

Mutton may be used, either boiled or roasted, avoiding the outer roasted edge, which is most difficult of digestion.

Salted provisions are not only permitted, but should frequently be used, and depended on, more than fresh, such as, good fat corned beef, beeves' tongues, salted and smoked, smoked ham, &c. When boiled, it should be done by keeping the water just at the boiling point, for several hours, avoiding violent ebullition. By this means you save the volatile and savoury particles of the meat, which by rapid boiling, evaporate. This rule should not be forgotten, when soup is boiled, not only for the sick, but also for family use. It is the most economical, and renders the meat or

soup much more palatable, and easier of digestion. Soups prepared from the flesh of all domestic animals, are advised as diet, for the dyspeptic sufferer, but those prepared with wild meats and wild fowl or game of any kind, are always preferable. Fish and oysters may be used with a due proportion of biscuit, crackers, or bread stuff. Salted boiled codfish, once a week, would be an advantageous dish, rather than an injurious one, and boiled fresh fish are also easy of digestion; but lobsters should be totally avoided. Soft boiled eggs may be occasionally eaten, although with caution. Milk may be used every day without injury, and particularly boiled sour buttermilk, with biscuit or crackers, sweetened with molasses or maple sugar, which is found a very easy, pleasant and refreshing article of diet, and is much preferable to sweet milk. Meat pies are injurious, and should always be avoided, as also almonds, nuts and raisins. Ripe and sound apples and peaches, when used with moderation, may be of some benefit, but green and decayed fruit of all kinds and particularly cherries, plums, and pears, are highly offensive, and produce ill consequences. They should always be considered totally inadmissible, and highly obnoxious.

Fresh animal food should be kept some time before it is cooked, as it thereby becomes tender and easy to digest. It is not to be kept in an improper place and season, however, lest it should become tainted, or in any degree putrid; as by this means it would prove more injurious to the digestive functions than if it was used as soon as the animal was killed. In winter it may be hung up in the garret, or in any convenient cold place where it will freeze, which is a very good process to render it tender; and in summer it may be placed in an ice-house, or let down in a deep well, and thus kept with convenience for two or three days, without being subjected in the least degree to the process of putrefaction.

When meat is boiled, it must be continued in the pot over a slow fire till it is tender; and when it is stewed, the same rule should be observed. The majority of American cooks are instrumental in causing a great many diseases of the bowels. They are totally or mostly ignorant of the scientific principles of cookery, and many of them are wilfully and wickedly negligent and filthy; and by this means commit more waste and destruction in the family where they reside, than ten times the amount of the wages they receive. But in many instances they are not so much to be blamed, as they are brought up in this low, filthy wasteful and destructive manner. I am sorry to say the fault, in many instances, is in reality, on the part of the mistress of the family, who, according to general custom, of late years, feels it beneath her dignity to pay any attention to the cooking department of her domestic affairs, or to fulfil the station for which nature has designed her. In other instances, the mistress is as ignorant as her servant, and totally unqualified to have the charge of a family. She depends on her servants for the knowledge and method of performing all her domestic concerns, and does not know, herself, how they should be done correctly.

Let it be understood, that a proper method of cooking the provisions of a dyspeptic patient will much contribute to his speedy recovery, and will also prove, in a measure, the means of preventing a return of the disease. It is essential that all articles of diet should be prepared with the utmost simplicity. The gastric juice of a weak stomach will digest with much difficulty a dinner composed of a large quantity of dishes. It would be a duty imposed upon it, which it is totally unable to perform. The dinner, therefore, should consist of one dish of flesh, or fish, only, and one or two dishes of vegetables, with bread, at least twelve hours old, made of coarse flour. Two

dishes of meat at the same meal may create a disturbance in the weak stomach, as they are not so easily dissolved by the gastric juice, as one only; and the same rule will apply to the vegetable diet, as we daily see a difference in the agreement of one or more vegetables with a weak stomach.

The patient may change his diet every meal, if he pleases, and go through the whole routine of animal and vegetable diet. But let him not make a variety shop or a Fly market of his stomach, at every meal.

Let me conclude, by saying, that whatever be the plain diet to be used, let it be of the very best quality the market affords: let not the potatoes be frozen and watery, or the butter old and rancid. Fresh butter will prove an innocent and nutritious article of diet, while rancid and strong butter would prove sufficient to occasion a dysentery or cholera morbus. Fat gravy should be avoided, and the juice of the meat, only, substituted. Vinegar, and pickles, of all kinds, will prove injurious, but moderate quantities of mustard and horse-radish may be eaten to advantage. Let the invalid observe one caution, to take the utmost pains in masticating his food, at all times, and never be in a hurry at his meals. When horse-radish and vegetables of the like kind are used, they should be finely scraped or grated in small and fine particles.

Desserts should be used sparingly, and in general the patient does much better without them. Such as may be used, are plain puddings of rice, bread or biscuit, calves' feet jelly, plain apple-pye, if well baked and made with a light crust, custard, &c. But rich pastry should always be avoided, as poison to the weak stomach. Strong tea and coffee should be totally prohibited, and weak tea and coffee, with equal quantities of milk, should be substituted in their stead.

But the all important part of the diet, without particular attention to which, all that has been advised will prove to be of no benefit, is the drinks which may be proper for the dyspeptic patient. The best of all diluent liquors is pure water, which nature has provided for the use of man in universal abundance; yet as a substitute, many resort to spiritous and malt liquors, which produce many diseases of the stomach and intestines. The effects of ardent spirits upon the health of man, are found to be a loss of appetite, sickness of stomach, obstructions of the liver, jaundice, dropsy, a cough, which often terminates in a pulmonary consumption, diabetes, leprosy, eruptions, and paleness of countenance, foetid breath, acid eructations and belchings, cholic and cholera morbus, epilepsy, palsy and apoplexy, insanity, hypochondriases, dyspepsia, &c.; all of which are more or less of a mortal nature, and sooner or later close the eyes of the unfortunate victim of drunkenness in silent death. And surely it cannot be proper in cases of dyspepsia, to suffer the patient to make use of spiritous liquors. Malt liquors and wine are found indeed to produce less malignant effects, although they also should be used very sparingly, and in small quantities. There are many refreshing and palatable drinks, which can be used without injury; as toasted bread or crackers, or biscuit in water, apple water, tamarind water, cream of tartar water, lemonade, currant jelly water, spruce beer, or cider and water, &c. which should always be preferred, throwing aside wine and spiritous liquors. Soda water is a palatable and medicinal drink, and should always be used in summer, when it can in any way be obtained. If a fountain is not at hand, the powders will be found a good substitute, and can be procured at most of the druggist shops in all our important cities and villages.

I have mentioned the disadvantages of sick persons sleeping and lying on feather beds, when labouring un-

der that disease termed dysentery, and the same reasons will apply to persons labouring under dyspepsia. In summer a feather bed is really offensive and absurd, and in winter nothing can be said in its favour. Instead of a feather bed, therefore, mattresses of hair, wool or straw, should be substituted, and a short space of time will reconcile a person to their use, and they will then be invariably preferred to feather beds.

A regular course and continuation of exercise, will prove a valuable part of the remedy in the cure of indigestion. Exercise, in a confined place, will not answer the desired purpose. If taken in the house it may fatigue, without aiding in producing the important change in the system which we are about to effect.—The thoughts of a new life of health must always be uppermost in the mind of the patient; and the idea of continuing in the same old disconsolate, dejected, hopeless, fretful, sorrowful, dyspeptic situation, should be totally obliterated and discarded. His exercise should therefore not be in the chimney corner, but in the open air. He should every pleasant day breathe the pure country air. A man whose occupation daily leads him to labour and exercise in the field, and whose line of living is regular, gentle, and uniformly prudent, was never known to become a subject of dyspepsia. He enjoys uninterrupted health to almost the latest period of his life, and dies in a good old age, an irreparable loss to his friends and connexions.

Riding on horse-back, which may be practised by both male and female, is of all others perhaps the most preferable exercise to commence with, and should be used every morning when the weather will admit of it. Exercise by walking is also of much service. But long journeys, if the health will admit of it, have the most exhilarating and medicinal effect on the system—as thereby a change of scene and of air is realized, that

cannot be found where daily short rides are made at or about home. But in pursuing this course of exercise, violent fatigue, and exposure to heat, cold and moisture, should carefully be avoided, or else the home exercise might have better been preferred. It is better that the patient should have some business or object in view which demands his attention, as well as bodily exercise. If his business is such as confines him to a sedentary life, he must change it to that of a more active life. Females may use swinging, who will not consent to domestic exercise, and who cannot have the opportunity of riding or walking in the open air. Domestic exercise, or a moderate attention to the business of a small family, seems best calculated for females, carefully avoiding mental and domestic irritation, or resolving with a positive determination to overcome the disposition of fretfulness, peevishness, idleness and resentment. Strict attention to early hours should be observed, and the patient should never indulge in the practice of taking the unsound sleep that follows lying in bed late in the morning, after being first awake. Nor should the invalid sleep with a fire in the chamber, as when the fire goes out in the course of the night, the change of temperature in the air is such as to produce catarrh, and thus retard the cure. The feet must be guarded from cold and wet, by cork soled shoes and warm stockings; and females should wear their clothes loose and easy, and lay by the use of any instrument that may tend to confine the body in a narrow or small compass, and resume the diet, dress and exercise which nature first directed them to observe, which, with what has been before mentioned, will be sufficient to warrant success in the cure of dyspepsia.*

* Charcoal has been a remedy used by some persons, and its benefits I will not pretend to deny. Its operation is similar to other articles which we have mentioned, although of a weaker nature. Its use may depend upon circumstances, and may be

I will barely mention that many persons have found relief by the use of my Chemical Anti Dysenteric Medicine, in cases of dyspepsia, and also without using tonic remedies, or even paying particular attention to diet and exercise. I have never prescribed it in my private practice, without the aid of exercise, diet, and tonics. I have a valuable remedy as a tonic, which is offered to the public and used with much success in the treatment and cure of intermitting fever, or fever and ague; and also as a tonic in all cases of chronic debility, called the Indian Botanical Ague Drop. It is a distillation of the plant I have mentioned, as a tonic, for the cure of dyspepsia, called *eupatorium perfoliatum* of Linnæus, (or bone-set, thoroughwort, &c.) combined with mineral tonics. It may be used with safety, in any case of debility, to advantage, and is particularly adapted to effect a change of action and restore tone to the functions of a diseased stomach. I have succeeded so uniformly by the use of these two remedies, the one as an alkaline and alterative, and the other as a tonic, that I have used no other for these five years in cases of this nature. I would, therefore, confidently assert, that those who do not wish or feel themselves able to employ the constant attention of a physician, those who are travelling, and those, also, who reside where confidential medical aid is not to be obtained at hand, may find certain and speedy relief from the use of these two compounds, according to the directions advised in this work.

To those who choose to put themselves under the influence of Vought's Chemical Anti Dysenteric Medicine, and Indian Botanical Ague Drop, for the cure of dyspepsia or indigestion, the following directions are offered, when abstaining from all other medical

administered according to the judgment and fancy of the attending physician.

aid or advice is resolved upon:—The bowels must first be evacuated by the aid of some Anti Bilious Pills, or some other gentle laxative, when the Anti Dysenteric Medicine must be used, as directed in the bill or wrapper, under the head of dyspepsia, for about ten days, or till the acid symptoms have subsided or disappeared; using also, moderate doses of Anti Bilious Pills, to freely evacuate the feculent matter from the bowels, when the Indian Botanical Ague Drop must be commenced by taking, at first, four drops three times a day, if the stomach will bear it without nausea, and if not, three drops only must first be used, and the dose must be increased one drop, every third day, till you get to using ten drops three times a day. If any inconvenient symptoms arise, the dose must not be increased so rapidly, but must be diminished till no disagreeable effect, such as nausea or swelling of the face or eyes, occur from its exhibition; it may then be continued at this dose for one month, after which it may be gradually increased one drop, every five days, till fifteen drops are taken three times a day; which dose may be continued till a complete cure is effected. At the same time the tonic medicine is exhibited, the alkaline or Anti Dysenteric Medicine should be also used in doses of one tea-spoonful every morning, on an empty stomach, when first rising from the bed; and if acid eructations from the stomach occur, it must be used oftener, till this symptom is entirely removed, which use may be governed by the violence and frequency of this symptom. During the whole course of the treatment, particular care should be taken to keep the bowels from becoming costive, or rather to keep them in a moderately lax and loose condition, by the use of the Anti Bilious Pills. It is necessary that there should be, at least, one natural evacuation from the bowels every twenty-four hours, and to make some effort, at a certain time every day, to produce this effect, may soon become habitual;

but it would not be proper to excite a constant diarrhœa. The course of diet and of exercise, must be particularly followed, as mentioned in this work under the head of dyspepsia; and if perseverance be observed in this course of treatment, for a sufficient length of time to restore tone to the system, perfect health and a complete cure may be as certainly realized as anticipated.

I have been apprized of the opposition that this remedy has met with, from some physicians living in the neighbourhood of those who were using it, and who were disposed to give it a chance to prove its medical virtues in the cure of this disease. I am aware of the reproaches of those who are enemies to all patents and improvements in medical prescriptions.—But let it be remembered that a majority of these persons are not only enemies to these prescriptions, but to all other medical aid that is used in the place where they reside, except their own; and it matters not how correct, and how useful another physician or medical prescription may be, some bug-bear is sure to be told to their injury. Those, therefore, who are disposed to make trial of the remedies I have offered, will please to pay no attention to the stories of this class of citizens; or otherwise, have nothing to do with what I have offered, to afford them relief and restore them to health.

Let those who endeavour to injure the reputation of this course of treatment, be well convinced of its virtues and of its errors; then let them publicly adopt a course that proves superior and more beneficial to the public, and I will be perfectly willing to yield to their superior abilities in the healing art.

CASE OF DYSPEPSIA.

THE following case occurred, under my hands, in 1820. It was that of a gentleman of forty years of age, whose profession was that of a lawyer, who led a very sedentary life, and had been troubled with indigestion for the term of four years. He had taken every article, as a medicine, that was advised by different physicians, and all to little or no benefit. When he first applied to me, he was confined to his room, in a debilitated and distressed situation. He was fond of a good dinner, and frequently ate more than persons in usual health; after which he would retire to his bed, and be distressed with nausea, retching and acid eructations from his stomach, the remaining part of the day, and sometimes all night. His pulse was weak, and he experienced frequent paroxysms of fever, which was of an intermittent kind. I ordered a bilious pill every other night, at bed time, and five grains of the sub. carb. potass, in mint water, three times a day, with such a diet as is mentioned heretofore under the head of *Dyspepsia*, and soda water for his constant drink. He rode every fair day on horse-back, from five to ten miles. On the twelfth day I gave him the tincture of the muriate of iron, three times a day in small doses, which was continued, and also the use of the alkalies, every morning before eating, for four weeks. The tonic was then changed to the eupatorium perfoliatum, and after taking it four weeks, he commenced the nitrate of silver in doses of one sixth of a grain, three times a day. He started on a journey of five hundred miles on horse-back, continuing his medicine as directed, with the use of a bilious pill occasionally. He returned at the expiration of ten weeks, in as good health as he ever before enjoyed, and needed no more medical aid.

*Observations upon Worms in the Alimentary Canal,
and upon Anthelmintic Medicines.*

[EXTRACTED FROM RUSH'S WORKS.*]

I HAD the honour of attending the lectures delivered by this ever to be remembered and scientific writer, in the years 1812 and '13, in the city of Philadelphia, and I take the liberty of republishing some of his own words on the above mentioned subject.

With great diffidence I venture to lay before the public my opinions upon worms : nor should I have presumed to do it, had I not entertained a hope of thereby exciting further inquiries upon this subject.

When we consider how universally worms are found in all young animals, and how frequently they exist in the human body, without producing disease of any kind, it is natural to conclude that they serve some useful and necessary purposes in the animal economy. Do they consume the superfluous aliment which all young animals are disposed to take, before they have been taught, by experience or reason, the bad consequences which arise from it? It is no objection to this opinion, that worms are unknown in the human body in some countries. The laws of nature are diversified, and often suspended under peculiar circumstances in many cases, where the departure from uniformity is still more unaccountable, than in the present instance. Do worms produce diseases from an excess in

* See Rush on Worms and Anthelmintic Medicines, vol. i. p. 217.

their *number*, and an *error* in their place, in the same manner that blood, bile and air produce diseases from an *error* in their place, or from *excess* in their *quantities*? Before these questions are decided, I shall mention a few facts which have been the result of my own observations upon this subject.

1. In many instances, I have seen worms discharged in the small-pox and measles, from children who were in perfect health, previously to their being attacked by those diseases, and who never before discovered a single symptom of worms. I shall say nothing here of the swarms of worms which are discharged in fevers of all kinds, until I attempt to prove that an idiopathic fever is never produced by worms.

2. Nine out of ten of the cases which I have seen of worms, have been in children of the grossest habits and most vigorous constitutions. This is more especially the case where the worms are dislodged by the small-pox and measles. Doctor Capelle of Wilmington, in a letter which I received from him, informed me, that in the livers of sixteen, out of eighteen rats which he dissected, he found a number of the *tænia* worms. The rats were fat, and appeared in other respects to have been in perfect health. The two rats in which he found no worms, he says, "were very lean, and their livers smaller in proportion than the others."

3. In weakly children, I have often known the most powerful anthelmintics given without bringing away a single worm. If these medicines have afforded any relief, it has been by their tonic quality. From this fact, is it not probable—the conjecture, I am afraid, is too bold, but I will risk it:—is it not probable, I say, that children are sometimes disordered from the want of worms? Perhaps the tonic medicines which have been mentioned, render the bowels a more quiet and

comfortable asylum for them, and thereby provide the system with the means of obviating the effects of crapulas, to which all children are disposed. It is in this way that nature, in many instances, cures evil by evil. I confine the salutary office of worms only to that species of them which is known by the name of the round worm, and which occurs most frequently in children.

Is there any such disease as an idiopathic WORM FEVER? The Indians in this country say there is not, and ascribe the discharge of worms to a fever, and not a fever to the worms*.

By adopting this opinion, I am aware that I contradict the observations of many eminent and respectable physicians.

Doctor Huxham describes an epidemic pleurisy, in the month of March, in the year 1740, which he supposes was produced by his patients feeding upon some corn that had been injured by the rain the August before†. He likewise mentions that a number of people, and those too of the elderly sort‡, were afflicted at one time with worms, in the month of April, in the year 1743.

Lieutade gives an account of an epidemic worm fever from Velchius, an Italian physician;|| and Sauvages describes, from Vandermonde, an epidemic dysentery from worms, which yielded finally only to worm medicines.§ Sir John Pringle and Doctor Monroe, likewise frequently mention worms as accompanying the

* See Rush's Inquiry into the Diseases of the Indians, vol. i. p. 19.

† Vol. II. of his Epidemics, p. 56.

‡ P. 136.

|| Vol. I. p. 76.

§ Vol. II. p. 329.

dysentery and remitting fever, and recommend the use of calomel as an antidote to them.

I grant that worms appear more frequently in some epidemic diseases than in others, and oftener in some years than in others. But may not the same heat, moisture, and diet, which produced the diseases, have produced the worms? And may not their discharge from the bowels have been occasioned in those epidemics, as in the small-pox and measles, by the increased heat of the body, by the want of nourishment, or by an anthelmintic quality being accidentally combined with some of the medicines that are usually given in fevers?

In answer to this, we are told that we often see the crisis of a fever brought on by the discharge of worms from the bowels by means of a purge, or by an anthelmintic medicine. Whenever this is the case, I believe it is occasioned by offending bile being dislodged by means of the purge, at the same time with the worms, or by the anthelmintic medicine (if not a purge) having been given on, or near one of the usual critical days of the fever. What makes the latter supposition probable is, that worms are seldom suspected in the beginning of fevers, and anthelmintic medicines seldom given, till every other remedy has failed of success; and this generally happens about the usual time in which fevers terminate in life or death.

It is very remarkable that since the discovery and description of the hydrocephalus internus, we hear and read much less than formerly of worm fevers. I suspect that disease of the brain has laid the foundation for the principal part of the cases of worm fevers which are upon record in books of medicine. I grant that worms sometimes increase the danger from fevers, and often confound the diagnosis and prognosis of them, by a number of new and anomalous symp-

toms. But here we see nothing more than that complication of symptoms which often occurs in diseases of a very different and opposite nature.

Having rejected worms as the cause of fevers, I proceed to remark, that the diseases most commonly produced by them, belong to Dr. Cullen's class of NEUROSES. And here I might add, that there is scarcely a disease, or a symptom of a disease, belonging to this class, which is not produced by worms. It would be only publishing extracts from books, to describe them.

The *chronic* and *nervous* diseases of children, which are so numerous and frequently fatal, are, I believe, frequently occasioned by worms. There is no great danger, therefore, of doing mischief, by prescribing anthelmintic medicines in all our first attempts to cure their chronic and nervous diseases.

I have been much gratified by finding myself supported in the above theory of worm fevers, by the late Dr. William Hunter, and by Dr. Butter, in his excellent treatise upon the infantile remitting fever.

I have taken great pains to find out, whether the presence of the different species of worms might not be discovered by certain peculiar symptoms; but all to no purpose. I once attended a girl of twelve years of age in a fever, who discharged four yards of a *tænia*, and who was so far from having discovered any peculiar symptom of this species of worms, that she had never complained of any other indisposition, than now and then a slight pain in the stomach, which often occurs in young girls from a sedentary life, or from errors in their diet. I beg leave to add further, that there is not a symptom which has been said to indicate the presence of worms of any kind, as the cause of a disease, that has not deceived me; and none oftener

than the one that has been so much depended upon, viz. the picking of the nose. A discharge of worms from the bowels, is, perhaps, the only symptom that is pathognomonic of their presence in the intestines.

I shall now make a few remarks upon anthelmintic remedies.

But I shall first give an account of some experiments which I made in the year 1771, upon the common earth-worm, in order to ascertain the anthelmintic virtues of a variety of substances. I made choice of the earth-worm for this purpose, as it is, according to naturalists, nearly the same in its structure, manner of subsistence, and mode of propagating its species, with the round worm of the human body.

In the first column I shall set down, under distinct heads, the substances in which worms were placed; and in the second and third columns the *time* of their death, from the action of these substances upon them.

I. BITTER AND ASTRINGENT SUB- STANCES.	Hours.	Minutes.
Watery infusion of aloes	2	48
_____ of rhubarb	1	30
_____ of Peruvian bark	1	30
II. PURGES.		
Watery infusion of Jalap	1	—
_____ of bear's foot	1	17
_____ of gamboge	1	—
III. SALTS.		
1. <i>Acids.</i>		
Vinegar	—	1 1-2 convulsed.
Lime juice	—	1
Diluted nitrous acid	—	1 1-2
2. <i>Alkali.</i>		
A watery solution of salt of tartar	—	2 convulsed, throwing up a mucous on the surface of the water.

		Hours.	Minutes.
3. Neutral Salts.			
In a watery solution of common salt		—	1 convulsed.
— of nitre		—	ditto.
— of sal diuretic		—	ditto.
— of sal ammoniac		—	1 1-2
— of common salt and sugar		—	4
4. Earthy and metallic salts.			
In a watery solution of Epsom salt		—	15 1-2
— of rock alum		—	10
— of corrosive sublimate		—	1 1-2 convulsed.
— of calomel		—	49
— of tirpeth mineral		—	1 convulsed.
— of sugar of lead		—	3
— of green vitriol		—	1
— of blue vitriol		—	10
— of white vitriol		—	30
IV. METALS.			
Filings of steel		—	25 1-2
Filings of tin		1	—
V. CALCAREOUS EARTH.			
Chalk		2	—
VI. NARCOTIC SUBSTANCES.			
Watery infusion of opium		—	11 1-2 convulsed.
— of Carolina pink root		—	33
— of tobacco		—	14
VII. ESSENTIAL OILS.			
Oil of wormwood		—	3 convulsed.
— of mint		—	3
— of carraway seed		—	3
— of amber		—	1 1-2
— of anniseed		—	4 1-2
— of turpentine		—	6
VIII. ARSENIC.			
A watery solution of white arsenic		near 2	—
IX. FERMENTED LIQUORS.			
In Madeira wine		—	3 convulsed.
Claret		—	10

X. DISTILLED SPIRIT.		Hours.	Minutes.
Common rum		—	1 convulsed.
XI. THE FRESH JUICES OF RIPE FRUITS.			
The juice of red cherries		—	5 1-2
— of black do.		—	5
— of red currants		—	2 1-2
— of gooseberries		—	3 1-2
— of whortleberries		—	12
— of blackberries		—	7
— of raspberries		—	5 1-2
— of plums		—	13
— of peaches		—	25
The juice of watermelons, no effect.		—	—
XII. SACCHARINE SUBSTANCES.			
Honey		—	7
Molasses		—	7
Brown sugar		—	30
Manna		—	2 1-2
XIII. IN AROMATIC SUBSTANCES.			
Camphor		—	5
Pimento		—	3 1-3
Black pepper		—	45
XIV. FOETID SUBSTANCES.			
Juice of onions		—	3 1-2
Watery infusion of assafoetida		—	27
— santonicum, or wormseed		1	—
XV. MISCELLANEOUS SUBSTANCES.			
Sulphur mixed with oil		2	—
Æthiops mineral		2	—
Sulphur		2	—
Solution of gunpowder		—	1 1-2
— of soap		—	19
Oxymel of squills		—	3 1-2
Sweet oil		2	30

In the application of these experiments to the human body, an allowance must always be made for the alteration which the several anthelmintic substances

that have been mentioned, may undergo from mixture and diffusion in the stomach and bowels.

In order to derive any benefit from these experiments, as well as from the observations that have been made upon anthelmintic medicines, it will be necessary to divide them into such as act,

1. Mechanically,
2. Chemically upon worms; and,
3. Into those which possess a power composed of chemical and mechanical qualities.

1. The mechanical medicines act indirectly and directly upon the worms.

Those which act *indirectly* are, vomits, purges, bitter and astringent substances, particularly aloes, rhubarb, bark, bear's-foot, and worm-seed. Sweet oil acts indirectly and very feebly upon worms. It was introduced into medicine from its efficacy in destroying the botts in horses; but the worms which infest the human bowels, are of a different nature, and possess very different organs of life from those which are found in the stomach of a horse.

Those mechanical medicines which act *directly* upon the worms, are cowhage* and powder of tin. The last of these medicines has been supposed to act chemically upon the worms, from the arsenic which adheres to it; but from the length of time a worm lived in a solution of white arsenic, it is probable the tin acts altogether mechanically upon them.

* *Dolichos Pruriens*, of Linnæus.

2. The medicines which act chemically upon worms, appear, from our experiments, to be very numerous.

Nature has wisely guarded children against the morbid effects of worms, by implanting in them an early appetite for common salt, ripe fruits, and saccharine substances; all of which appear to be among the most speedy and effectual poisons for worms.

Let it not be said that nature here counteracts her own purposes. Her conduct in this business is conformable to many of her operations in the human body, as well as throughout all her works. The bile is a necessary part of the animal fluids, and yet an appetite for ripe fruits seems to be implanted chiefly to obviate the consequences of its excess, or acrimony, in the summer and autumnal months.

The use of common salt as an anthelmintic medicine, is both ancient and universal. Celsus recommends it. In Ireland it is a common practice to feed children, who are afflicted by worms, for a week or two upon salt sea-weed, and when the bowels are well charged with it, to give a purge of wort in order to carry off the worms, after they are debilitated by the salt diet.

I have administered many pounds of common salt, colored with cochineal, in doses of half a drachm, upon an empty stomach in the morning, with great success in destroying worms.

Ever since I observed the effects of sugar and other sweet substances upon worms, I have recommended the liberal use of all of them in the diet of children, with the happiest effects. The sweet substances probably act in preventing the diseases from worms in the stomach only, into which they often insinuate themselves, especially in the morning. When we wish to dislodge

worms from the bowels by sugar or molasses, we must give these substances in large quantities, so that they may escape in part the action of the stomach upon them.

I can say nothing from my own experience of the efficacy of the mineral salts, composed of copper, iron, and zinc, combined with vitriolic acid, in destroying worms in the bowels. Nor have I ever used the corrosive sublimate in small doses as an anthelmintic.

I have heard of well-attested cases of the efficacy of the oil of turpentine in destroying worms.

The expressed juices of onions and of garlic are very common remedies for worms. From one of the experiments, it appears that the onion juice possesses strong anthelmintic virtues.

I have often prescribed a tea-spoonful of gunpowder in the morning upon an empty stomach, with obvious advantage. The active medicine here is probably the nitre.

I have found a syrup made of the bark of the Jamaica cabbage-tree*, to be a powerful as well as a most agreeable anthelmintic medicine. It sometimes purges and vomits, but its good effects may be obtained without giving it in such doses as to produce these evacuations.

There is not a more certain anthelmintic than Carolina pink-root.† But as there have been instances of death having followed excessive doses of it, imprudently administered, and as children are often affected by

* *Geoffrea*, of Linnæus.

† *Spigelia Marylandica*, of Linnæus.

giddiness, stupor, and a redness and pain in the eyes after taking it, I acknowledge that I have generally preferred to it, less certain, but more safe medicines for destroying worms.

3. Of the medicines whose action is compounded of mechanical and chemical qualities, calomel, jalap, and the powder of steel, are the principal.

Calomel, in order to be effectual, must be given in large doses. It is a safe and powerful anthelmintic. Combined with jalap, it often brings away worms when given for other purposes.

Of all the medicines that I have administered, I know of none more safe and certain than the simple preparations of iron, whether they be given in the form of steel-filings or of the rust of iron. If ever they fail of success, it is because they are given in too small doses. I generally prescribe from five to thirty grains every morning, to children between one year, and ten years old ; and I have been taught by an old sea-captain, who was cured of a *tænia* by this medicine, to give from two drachms to half an ounce of it, every morning, for three or four days, not only with safety, but with success.

I shall conclude this essay with the following remarks :

1. Where the action of medicines upon worms in the bowels does not agree exactly with their action upon the earth-worms in the experiments that have been related, it must be ascribed to the medicines being more or less altered by the action of the stomach upon them. I conceive that the superior anthelmintic qualities of pink-root, steel-filings, and calomel, (all of which acted but slowly upon the earth-worms, com-

pared with many other substances,) are in a great degree occasioned by their escaping the digestive powers unchanged, and acting in a concentrated state upon the worms.

2. In fevers attended with anomalous symptoms, which are supposed to arise from worms, I have constantly refused to yield to the solicitations of my patients, to abandon the indications of cure in the fever, and to pursue worms as the *principal* cause of the disease. When I have adhered steadily to the usual remedies for the different states of fever, in all their stages, I have at the same time blended those remedies occasionally with anthelmintic medicines. In this I have imitated the practice of physicians in many other diseases, in which troublesome and dangerous symptoms are pursued, without seducing the attention from the original disease. The anthelmintic medicines prescribed in these cases, should not be the rust of iron, and common salt, which are so very useful in chronic diseases from worms, but calomel and jalap, and such other medicines as aid in the cure of fevers.

Alkalies.

THE alkalies are divided into volatile and fixed. *Ammonia* is the volatile, and *soda* and *potass* are the two fixed *alkalies*. *Ammonia*, or volatile alkali, in its pure state, exists in the form of a *gas*. When it is absorbed by water, it is the water of the carbonate of ammonia (or hartshorn) which is used in smelling-bottles, when rendered mild by its unison with carbonic acid. When crystallized, it is the common smelling salts. When equal parts of the muriate of ammonia and quick-lime, both pulverized, are heated in a glass

retort, a gas is extricated, and which, if collected over mercury, retains its æriform state, and is pure ammonia. If collected in a vessel containing water, it is absorbed by the water, and constitutes the aqua ammoniæ.

Ammonia is chiefly used as a medicine. It is produced by the putrefaction or the distillation of almost all animal matter. Sal ammoniac, or muriate of ammonia, from which the volatile alkali is chiefly procured, is a compound of ammonia and muriatic acid. This is procured by distilling the fæces of certain animals. The fæces of the camel, in Egypt, is dried in the sun, then burnt, and ammonia is then procured from it by simple distillation.

Potass and soda are the fixed alkalies; the former is called vegetable, and the latter mineral alkali. Potass is generally obtained from wood-ashes, but sometimes from the tartar or the lees of wine, in which case it is called salt of tartar. The ashes are washed in water, which dissolves the potass; the solution is then concentrated by boiling and evaporating in iron boilers, and the salt thus procured is sometimes heated in the fire to purify it.

Soda, or the fossil alkali, is sometimes found in a native state; as in the lakes of Natron, in Egypt, which are often dry in the summer season: after the evaporation of the water, a bed of soda is left, of two feet in thickness.

That which is not obtained in this manner, is procured from the ashes of sea-weeds and certain plants that grow on the sea-shore. These vegetables are thrown together in heaps, and burnt. The ashes are then collected, and treated in the same way as wood-ashes for obtaining the potass.

When soda is obtained from the ashes of a plant called barilla, which grows along the Spanish coast, the salt is called barilla. When it is obtained from other plants or sea-weeds, such as sea-wrack, or tang, &c. the salt is called kelp.

The alkalies combine with all the acids, and form neutral salts. They will all unite with oil, and the result of the combination is soap. The first part of this process consists in making the alkali pure or caustic, by mixture with quick-lime, which abstracts from it the carbonic acid. This caustic lye, mixed with oil or tallow, in due proportion, and boiled to a proper consistence, forms soap. The alkalies change the vegetable colours to a green, and have a strong attraction to water.

Boil one part of soda (or barilla) with two parts of quick-lime, in a sufficient quantity of water; then strain the liquor two or three times through a cloth; then boil one part of this solution with two of oil, and it will become good hard soap.

Window-glass is generally made of fine white sand and the soda obtained from the burning of sea-weeds.

Alkalies have an acrid and peculiar taste. They are readily soluble in water. They powerfully attract moisture from the atmosphere, or deliquesce. They are volatilized by a moderate heat, and have been called fixed alkalies. When combined with an acid, an effervescence takes place, and a neutral is formed. They are some of the most valuable articles of medicine made use of, for many diseases of the present age.

We are much indebted to chemistry for the knowledge of the properties which the alkalies contain.

They are highly important to the manufacturer, as many articles cannot be made without their aid. They are useful to the farmer and labourer, and they are indispensable to the chemist and practitioner of medicine; as by their aid many thousand lives have been saved and prolonged.

What do we not owe to the important principle which the alkalies contain? By their agency we form soap; we change the destructive power of the acids to that of a neutral and harmless substance; we prepare many useful medicines—we form and alter the hue of many colours. We are in possession of the knowledge of an æconomical mode of fine bleaching, and also of cleansing many articles and substances. We find the use of this principle daily and almost universal, and to this principle we, in a measure, owe our existence.

The Secale Cornutum, Ergot, or Spurred Rye.

As this is a disease that rye is subject to, when a hot summer succeeds a rainy spring; as it is known to prove the means of the ill health of many who eat the bread made of this kind of grain; and as it has also proved destructive to brutes and fowls that were fed with it, a few observations are offered on this subject, for the benefit of those who are still unacquainted with its medicinal properties, and also its deleterious effects when used improperly.

The spurious substance which is thus produced on the heads of rye, is called in France ergot, from its resemblance to a cock's spur. In England, it is called horned rye, spur, or horn-seed. The bread

that is made of this kind of rye has a nauseous, acrid taste, and gives rise to the cause of many diseases, which sometimes prove fatal; such as cholera-morbus, dysentery spasms, extreme debility, and even mortification of the extremities, &c. Subsequent to the year 1596, the most alarming and destructive consequences were occasioned among the poor people in France and England, by the use of bread which was made of the flour which contained this spurious substance.

The ergot is found projecting from among the leaves of the ear of rye. It is a long, crooked excrescence, resembling the spur of a cock; pointed at its extremity, and is of a dark brown colour externally, and white, like flour, within. Some of the ears are wholly occupied by the ergot, while others have two or three spurs only, interspersed with genuine grains of rye. The rye which grows in low and wet situations, particularly summer rye, is found to become more diseased than that which grows on high and dry land.

This grain, combined with its impurities, (the ergot,) should not be given to domestic animals, as it will create in them diseases, and prevent them from propagating their species. It should not be used as bread, as it may be the means of sickening all who eat of it. The farmer should therefore be very careful to separate the spurs from the genuine grain, before it is manufactured into flour, or before he gives it to his brute creation.

The medicinal properties of this extraordinary substance were first communicated to the public by Dr. John Stearns, of the city of New-York, during his former residence in the county of Saratoga. It is now satisfactorily ascertained, that the ergot is capable of

exciting the action of the uterus, and has proved a valuable remedy in cases of amenorrhœa and in cases of difficult parturition. It should be administered with much caution, and should never be used otherwise than in cases of real necessity. For a particular account of the benefit of this substance, as a medicine in certain cases, I refer the reader to the observations on the *secale cornutum* or ergot, with particular directions for its use in parturition, by John Stearns, M. D. of New-York, (*Philadelphia Medical and Physical Journal*, number 9, art. III. page 36,) which subject is elucidated much to the credit and reputation of the author. As this article should be used only in the hands of a medical man who is capable of judging at what period it may be administered to the benefit of the patient, the particulars respecting the dose and method of exhibition, &c. is not here mentioned. Those who are desirous of using it in their practice, will find a particular account of it in the reference above mentioned; and I am under a full belief that in many difficult cases it has proved an important remedy, in saving the life of both mother and child.

Farmers should use the precaution, when cleaning this kind of grain, not to throw the diseased grain where the animals of the farm can have access to it. They should always bury it, or carry it to the river, where it will certainly rot before animals have a chance to eat it.

I knew a farmer in the county of Schenectady, that lost all his hogs in the spring of the year, within a few days of each other. The hogs were in tolerable good order, and he could not account for their dying. I asked him with what he had fed them? His answer was, that their feed had been corn and bran till within a few days, when his corn becoming scarce, he had fed them on the cleanings of his rye, which had been put in one

corner of his barn during the winter. I asked him if his rye contained any of the brown spur which sometimes grows on the ear? His answer was, that some of his rye was very foul with it, and he had taken pains to separate as much of it from the grain as possible, which he had thrown among the cleanings, as he thought any thing of the grain kind was good enough for hog feed. I then told him he had killed his hogs by feeding them this diseased grain, and advised him to use no more of it. Let this be a warning to those who have such kind of grain, to take proper care of it.

Recipes useful to Families.

TINCTURE OF BONESETT IN WINE.

Take of eupatorium perfoliatum, the leaves and	
flowers pulverized,	one ounce,
cloves, do.	one drachm,
port wine,	one quart.

Digest seven days and filter or pour off. Dose, one table spoonful for an adult as a tonic in cases of debility, and as a tonic in old chronic intermittents, &c.

BONESETT SIRUP.

Take one ounce of bonesett, and steep it in one pint of hot water for fifteen minutes; then filter the liquor. Add to it in a quart bottle, half a pound of honey strained,

one drachm of the essence of hemlock,
 one ounce of elix. paregoric,
 half a pint of French brandy.

This will be found a valuable remedy in cases of common colds and catarrhs. The dose is one table

spoonful every two hours for adults, and children in proportion. If it pukes, the dose may be divided and given every hour. It is better that it should nauseate a little on the stomach.

SIRUP OF SQUILLS.

Take of the dried roots of squills, pounded, half an ounce,

alcohol	one ounce,
vinegar distilled	eight ounces.

Add together and macerate for seven days, then filtrate through paper, then add honey, six ounces, dissolved by a gentle heat, so as to form a sirup. This is an active expectorant, and useful for children who are subject to an oppression of the breast, catarrh, &c.

SIRUP OF LEMONS.

Take of juice of lemons, which have been suffered to stand till the feces have subsided, and then strained, three parts,

refined sugar	five parts.
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Dissolve the sugar in the juice so as to make a sirup.

This pleasant sirup is used to sweeten and acidulate mixtures, and is a good vehicle to take medicine in that is disagreeable to the taste. It is an agreeable and cooling febrifuge, when added to water, as a drink for persons labouring under fever.

HOREHOUND SIRUP.

Take of the leaves of horehound, dried, one ounce. Infuse them for fifteen minutes in half a pint of boiling

hot water. Strain, and add four table-spoonfuls of honey, and one tea-spoonful of the essence of lemon.

This is recommended for hoarseness, asthma, complaints of the breast, lungs, &c. It promotes the fluid secretions in general, and if used very liberal will loosen the abdomen. Dose for an adult, one table-spoonful every two hours. *Linnaeus* prescribed this remedy, and cured a patient that was thrown into a salivation by the use of mercurials, when every other method that had before, for one year, been used failed, or rather increased the disease. After using the horehound the patient got well in a short time. It is said to have been a favourite medicine with the ancients, for removing obstructions of the viscera. The negroes used it for curing vegetable poisons, &c.

SENEKA SIRUP.

Take of root of Seneka half an ounce,
water one pint,

Boil to half a pint, and strain; then add two table-
spoonfuls of honey.

This is a valuable expectorant in cases of pneumonia, and also in cases of croup. The dose may be one tea-spoonful every two hours, for children about two years of age, and one table-spoonful for adults.

INFUSION OF SENNA AND MANNA.

Take of the leaves of senna	one drachm,
manna opt.	half an ounce,
preserved tamarinds	half an ounce,
brown sugar	one table-spoonful,
coriander seeds bruised	one scruple,
boiling water	half a pint.

Macerate for four hours, occasionally stirring in a close vessel, then strain the liquor. This is a mild and pleasant purgative. Children about two years of age, may be given a table-spoonful every half hour till it operates freely.

INFUSION OF SENNA AND CREAM OF TARTAR.

Take of senna leaves	two drachms,
pulv. cream tart.	two ounces,
raisins bruised	four do.
bruised liquorice root	half an ounce,
boiling water	one pint.

Macerate three hours and strain.

This is a gentle and pleasant laxative for females in a state of pregnancy, or during their illness after lying in. The dose may be one wine-glassful every hour, till it produces the desired effect.

INFUSION OF RHUBARB WITH POTASS AND SODA.

Take of the root of rhubarb pulverized	half an ounce,
boiling water	half a pint,
spirit of cinnamon	half an ounce.

Macerate in a close vessel for six hours, and strain. Then add sub. carbonate of potass, or pure salt of wormwood, one drachm; sub. carbonate of soda two drachms.

This is an alkaline and gentle cathartic, and a valuable remedy to remove acidity from the stomach and intestines.

TINCTURE OF RHUBARB.

Take of root of rhubarb in coarse powder,	two oz.
“ of liquorice & anise seed do. a. a.	one oz.

sub. carb. soda,	half an ounce,
sugar,	one ounce,
diluted alcohol,	two pounds.

Digest for seven days and filtrate through paper.

This is a good remedy as a stomachic, as well as purgative, in cases of indigestion, laxity of the intestines, &c.

TINCTURE OF MYRRH AND ALOES.

Take of myrrh, in powder, one ounce,
spirits of wine, three gills,
anise oil, one drachm,
Mix and digest for three days, then add socotorine aloes, in powder, and saffron, a. a. one ounce,
water, one gill.

Digest for seven days, then pour off the tincture from the sediment.

This is an aperient and stimulant. The dose for an adult may be one drachm, two or three times a day.— This is also a valuable external application, to cleanse foul ulcers, and promote the exfoliation of carious bones.

TINCTURE OF OPIUM.

Take of gum opium one ounce,
diluted alcohol one pound.
Digest seven days, and filtrate through paper. The dose for an adult is about thirty-five drops.

This tincture will become weaker by standing ; it should therefore be freshly prepared about four or five times a year. Its use is to produce sleep, allay pain, irritation, &c.

TINCTURA OPII. CAMPHORATA, (OR ELIXIR PARE-
GORIC.)

Take of opium and benzoic acid a. a. 30 grains,
gum camphor, one scruple,
oil of anise seed, $\frac{1}{2}$ a drachm,
diluted alcohol, one pound.

Digest seven days and filtrate through paper.

The use of elixir paregoric is generally known. It should be given to children sparingly, and to adults only when occasion may require.

TINCTURE OF BONESETT COMPOUND.

Take of bonesett, in powder,	one ounce,
orange peel,	one drachm,
mace,	one drachm,
cloves,	one scruple,
diluted alcohol,	two pounds.

Digest seven days and filtrate through paper.

This is a grateful tonic and expectorant in cases of pneumonia, coughs, colds, &c. Dose, one tea spoonful every two hours, in any drink. This may be given in large doses as an emetic and diuretic.

TINCTURE OF HOPS.

Take of hops,
proof spirits,

three ounces,
one pint.

Digest for fourteen days and filtrate through paper.

This is a convenient tincture in families who use much of the tincture of opium. It is a good narcotic, and may be used in doses of from half a drachm to a drachm.

WINE OF IPECACUANHA.

Take of the root of ipecacuanha, in powder, one oz.
white wine, 16 oz.

Macerate for seven days and filtrate.

This makes a valuable emetic for children. The dose is one ounce for an adult; children, two years of age, one tea spoonful every ten minutes, till it pukes them.

WINE OF ANTIMONY.

Take of the tartrite of antimony, one drachm,
white wine, half a pint.

Macerate for seven days and filtrate through paper.

This is used the same as the wine of ipecacuanha, although it is more powerful and not so apt to operate by purging. It is preferable, in cases of croup, to the above recipe.

LINSEED POULTICE.

Take of linseed, powdered, four ounces,
hot water, half a pint.
Gradually sprinkle the powder into the water, and stir them together with a spoon.

This is a good and convenient emollient poultice for common cases. It is preferable to the bread and milk poultice, so much in use, as it is not so liable to become brittle and hard when dry.

CARROT POULTICE.

Take of boiled carrots, bruised, one pound,
flour, one ounce,
butter, half an ounce.
Mix them with as much hot water as to form a pulp.

This will be found a valuable application to ulcerated sores and swellings, scrofulous sores of an irritable kind, and many other inveterate ulcers.

YEAST POULTICE.

Take yeast of strong beer,	half a pint,
flour,	one pound.

Mix them and employ a gentle heat till it begins to rise or ferment.

This is a useful antiseptic poultice when applied to painful and irritable sores, and in ulcerations that are very foetid. Its efficacy depends on the carbonic acid gas that evolves during the fermentative process.

ALUM CURD POULTICE.

Take the white of two eggs, agitate them with a piece of alum till they are coagulated.

This is an astringent poultice, useful for cases of ophthalmia. It must not be applied immediately to the eyes, but should be spread upon fine linen, which should be between the poultice and the eyes. In violent cases, after bleeding, this curd proves a valuable application.

MUSTARD CATAPLASM.

Take of mustard, in powder,	4 ounces,
soft bread,	6 ounces,
vinegar of the best quality, as much as is	
sufficient to mix and make into a cata-	
plasm.	

This is found to be a good application to the soles of the feet in cases of rheumatism, gout, inflammatory

fevers, &c. It may be made strong enough to draw a blister, if necessary, and prove almost equal to cantharides.

SIMPLE OINTMENT.

Take of olive oil,	five ounces,
beeswax,	two ounces.

Melt them together over a slow fire, after which stir them constantly, till they are cold. This is a useful ointment for common sores and frettings, &c.

SPERMACETI OINTMENT.

Take of spermaceti,	two ounces,
olive oil and white wax, a. a.	one ounce.

Melt together, and stirring, as above mentioned, till cold.

This is a healing ointment, for softening the skin and healing chaps, and dressing blisters, wounds, ulcers, &c.

LIP OINTMENT, OR ROSE LIP SALVE.

Take of spermaceti,	half an ounce,
olive oil,	one ounce.

Melt them together, then take

fresh damask roses,	half an ounce,
cochineal,	ten grains.

Rub the roses and cochineal fine in a marble mortar; then add the melted oil and spermaceti, and stir them all together, constantly, till it is cold; then place it over a slow fire, to evaporate the moisture of the roses, and while hot, strain it through a linen cloth.

OINTMENT OF LEAD.

Take of olive oil,	2 ounces,
bees wax,	1 ounce,
acetite of lead,	1 drachm.

Rub together for some time in a marble mortar.

This is a cooling ointment of great use, when applied to excoriated surfaces, and will be found a superior application to burns, scalds, and superficial inflammation.

It must be spread thin on lint or soft linen rags, and applied to the injured part three times a day.

OINTMENT FOR THE HÆMORRHOIDS.

Take of the fresh leaves of the stramonium or thorn apple, and by some called stink-weed,	one pound,
hogs' lard	one pound.

Let them simmer together over a gentle fire, till the leaves become crisp and dry, then strain the lard into a clean vessel, and add,

yellow wax	two ounces,
finely pulverized nut-galls	one drachm.

Set them on the fire and melt all together, then take them off and keep stirring with a spatula till cold.—

Apply to the hæmorrhoids about the size of a hazel nut, three times a day.

This application is highly beneficial to allay the swelling of a cow's udder.

BASILICON OINTMENT.

Take of hogs' lard	two ounces,
resin of pine	one ounce,
yellow wax	half an ounce.

Melt them all together.

This ointment is commonly employed in dressing, for cleaning, and incarnating wounds and ulcers.

ITCH OINTMENT.

Take of red precipitate	one drachm
Venice turpentine	two drachms,
hogs' lard	one ounce,
resin of pine	two drachms.

Rub well together in a marble mortar, till it is mixed, and the red particles separated.

WHITE ITCH OINTMENT.

Take of cor. mur. merc.	twenty grains,
white precipitate	one drachm,
resin of pine	two drachms.

Rub them very fine in a marble mortar; then add,
hogs' lard one ounce.

Mix all together in a marble mortar, with care that every part is of equal strength. Use a little twice a day on every pimple, after letting out the matter, which must be wiped off with a linen rag.

BLISTERING PLASTER.

Take of burgundy pitch	eight ounces,
gum galban	two ounces,
resin of pine	four drachms,
mutton suet	eight ounces,
cantharides	twelve ounces.

The cantharides must be rubbed very fine and added to the other ingredients, previously melted and removed from the fire. They must all be stirred together till cold. If the plaster is too hard, more suet and less pitch may be added.

STRENGTHENING PLASTER.

Take of semivitrified oxide of lead one ounce,
 olive oil two ounces.

Add some water and boil them together, till the oil and oxide be formed into a plaster; then add;

resin of pine	four drachms,
yellow wax	three drachms,
burgundy pitch	four drachms,
red oxide of iron	six drachms.

Grind the oxide of iron with the resin and pitch, previously melted, then stir all together till cold.

This plaster, spread on leather, is used as a strengthening plaster for weakness of the large muscles, and is a good support to the loins in many cases.

SOLUTION OF THE ACETITE OF ZINC.

Take of sulphate of zinc, half a drachm,
 distilled water; five ounces.

Dissolve in a glass vessel.

Take of acetite of lead; two scruples;
 distilled water; five ounces.

Dissolve and mix the solutions together; let them stand four hours, and filter the liquor through paper.

A double decomposition takes place; the sulphuric acid of the zinc lets go the zinc and unites to the lead, forms a sulphate of lead, precipitates and falls to the bottom. The acetic acid of the lead lets go the lead and unites to the zinc, forms an acetite of zinc, and remains in solution.

This is a more astringent application than the acetite of lead, and less irritating than the sulphate of zinc.

It is a valuable application to the eyes in cases of ophthalmia, and also in many other inflammatory ca-

ses where sugar of lead is commonly used. When this solution is used for the eyes, it should be very clear and pure, as also perfectly free from any sediment.

VOLATILE LINIMENT.

Take of olive oil,	one ounce,
aqua. carb. ammonia,	} one drachm.
or hartshorn spts.	

Mix them together.

This is a preparation used externally as a stimulant and rubefacient. It is an efficacious remedy for inflammatory sore throats and stiff necks. It should be applied with a flannel, and rubbed in every two hours. In some cases it is necessary to dry it in by applying over the flannel cloth a hot iron or brick.

OPIUM AND CAMPHOR LINIMENT.

Take of opium, powdered,	one drachm,
gm. camphor, do.	one drachm,
Castile soap, scraped fine,	one drachm,
alkohol,	one ounce.

Rub them all together in a mortar, till the camphor, soap, and opium is dissolved, and they all form a liniment.

This is a valuable anodyne liniment for rheumatic pains in the limbs, for sprains and broken limbs, luxations, &c. &c. It is much stronger than the common opodeldoc of the shops, and much less expensive in comparison to its value.

HOP FOMENTATION.

Take two handfuls of hops, and one gill of distilled vinegar—Heat the vinegar and pour it on the hops till they are moist.

In cases of sore throat, hoarseness, or soreness on the breast, severe pain in the abdomen, cholic, dysentery, &c. this fomentation is worthy of some attention to give ease and allay irritation. It may be applied at bed time and kept on all night, or any time in the day if necessary.

DRAUGHTS FOR THE FEET.

Take of bread and butter,	one pint,
mustard, bruised,	one table-spoonful,
vinegar, distilled, as much as is sufficient to	
form it into a pulp.	

Or this :

Take of flour,	half a pound,
butter,	one ounce,
pearlash,	one table-spoonful,
salt,	do. do.
olive oil, sufficient to mix into a pulp.	

Both these draughts are beneficial, when applied all over the soles of the feet, in cases of fever, rheumatism, or after exposure to wet and cold, &c.

DIAPHORETIC DRAUGHT.

Take of sal. nitre,	five grains,
tartrite of antimony,	one grain,
gm. opium,	one grain,
gm. camphor,	one grain,

Pulverize them all together, which make one dose for an adult. Then drink of hot bone-set tea every fifteen minutes, till a perspiration is profuse all over the body; at the same time have hot irons or bricks all around you, which should be rolled up in damp cloths previously wrung out in the bone-set tea. The steam will rise and cause the perspiration to flow easy. This is a valuable remedy for colds and acute rheumatism, fevers, &c.

When a person is going to be sweat, it is always preferable to first bathe the feet in hot water, with a little pearlash in it, for at least fifteen minutes; then to lay between flannel sheets, and not remove them from the bed under twelve or fourteen hours, or until the perspiration on the body has entirely subsided, and the patient perfectly cool and dry. When the clothing is removed, it should be done by degrees, so as not to suddenly expose the patient, lest he should take cold. During the perspiration, no cold drinks whatever should be used.

CORDIAL MIXTURE.

Take of compound tincture of lavender, one ounce,
 tincture of castor, $\frac{1}{2}$ an ounce,
 aqua. carbonate of ammonia, do. do.
 sugar purified, two ounces.

Combine and cork tight in a phial.

Dose—one tea-spoonful for an adult, as a palliative remedy for palpitation of the heart, hysterics, fainting, &c.

ALKALINE MIXTURE.

Take of the sub. carbonate of soda, one scruple,
 carbonate of magnesia, ten grains,
 jalap, ten grains,
 mint water, one ounce,
 loaf sugar, one drachm,
 elix. paregoric, one do.

Melt the sugar with the mint water; then add the other ingredients, and shake the phial when it is used.

This is a valuable compound for young children that are troubled with wind, sour stomach and belly-ache. The dose for a child, one year old, may be one tea-spoonful, as often as occasion may require, in some catnip tea, balm, mint or sage tea.

SOLUTION OF THE ACETITE OF AMMONIA.

Take of the muriate of ammonia,	one drachm,
gm. opium,	four grains,
distilled vinegar,	four ounces,
water,	two ounces.

Pulverize the ammonia and opium fine; then dissolve them in the vinegar, after which add the water.

This is an excellent application to swelled breasts of females, which frequently occur after lying in. It is useful to many other inflammatory tumours, and is applied by keeping a linen cloth, constantly wet with it, to the part affected.

SOLUTION OF THE OXYDE OF ARSENIC.

Take of prepared oxyde of arsenic,	80 grains,
sub. carbonate of potass,	one drachm,
distilled water,	one pint.

Boil in a glass retort until the arsenic is dissolved. When the solution is cold, add four drachms of the compound spirits of lavender. Let it stand for three days and pour off the transparent liquor.

This formula is a valuable tonic for many diseases of debility; it should always be given with care and attention. The dose of this solution may be given as follows:—Persons from one to two years, may take one drop; from two to four years, two drops; from

four to six years, from three to four drops ; from six to twelve years, from four to six drops ; from twelve to sixteen years, from six to seven drops ; and adults may take from seven to ten drops every five or six hours. This solution, when taken, should be diluted with water gruel or barley water. The dose may be increased, if necessary, to fifteen or twenty drops; without danger to the patient.

NITROUS POWDERS.

Take of sal. nitre,	40 grains,
tartrite of antimony,	four grains,
gum opium,	two grains,
gum camphor,	three grains.

Grind them all together into a fine powder, and divide them into six powders ; one to be given every two hours, to an adult, in cases of remitting fevers, to keep up a gentle diaphoresis, or throw out moisture on the skin.

TINCTURE OF THE MURIATE OF IRON.

Take of the carbonate of iron,	four ounces,
muriatic acid,	24 ounces,
alcohol,	26 ounces.

Pour the muriatic acid on the carbonate of iron in a glass vessel ; shake the mixture every three hours for three days. Set it by, and when the feces subside, pour off the liquor. Then evaporate it with a moderate heat to sixteen ounces. When it is cold, add the alcohol.

This preparation is a very active and excellent chalybeate. It may be given to adults in doses of from ten to twenty drops, three times a day, in wine and water. It is a valuable medicine in cases of debility,

weakness of the lungs, dyspepsia, dysuria, &c. It is a remedy that often proves extremely efficacious in suppressions of urine arising from spasms. If it is given in doses of ten drops, and repeated every ten minutes, until some sensible effect is produced, it will seldom fail to remove the spasm; and, after five or six doses have been taken, the urine generally begins to flow freely, and the complaint entirely removed.— Those who are troubled with complaints of this nature, will find it to their benefit to always keep on hand a phial of this medicine, properly prepared by a chemist or physician, who is in the habit of compounding his own medicines, and who does not trust to common apothecaries for the accuracy of preparing compounds of this importance.

COMPOUND TINCTURE OF LAVENDER.

Take of the spirit of lavender,	one pound,
spirit of rosemary,	four ounces,
bark of cinnamon, pulv.	half an ounce,
cloves, pounded fine,	half a drachm,
red sander,	one drachm,
pulverized nutmeg,	two drachms.

Macerate for seven days, and filtrate through paper.

This is a grateful cordial for debilitated persons. It relieves languor and faintness. It may be taken, by adults, in doses of from twenty to thirty drops, in a little sugar and water.

TINCTURE OF BARK, COMPOUND.

Take of the red bark of cinchona,	{	one ounce,
in powder,		
orange peel,		half an ounce,
Virg. snake root, powd.		one drachm,
saffron,		half a drachm,
cochineal, in powder,		one scruple,
diluted alkohol,		ten ounces.

Digest for ten days, and filtrate.

As a stomachic and corroborant, this is a better preparation than the simple tincture of bark. It is pleasant and grateful to the taste, and may be used in doses of from one to three drachms as often as occasion may require.

BALM TEA.

Take of balm leaves,	one ounce,
sugar,	one spoonful,
boiling water,	one pint,
lemon juice,	one drachm.

Infuse fifteen minutes closely covered, and strain.

This is a good drink, when cold, for a person in a parching fever.

ELDER TEA.

Take of white elder flowers,	one ounce,
hot water,	half a pint,
honey,	one table-spoonful.

This will prove a gentle purgative for young children. Dose—one table-spoonful every half hour, till it operates.

Take of elder berries, dried,	two table spoonfuls,
hot water,	two gills,
molasses or sugar,	one table spoonful.

This will operate similar to the above, in the same doses. It is said to be useful in cases of erysipelas, if drank freely for some time.

ELECAMPANE TEA.

Take of the roots of elecampane, cut fine,	one ounce,
boiling water,	one pint,
honey,	2 tab. spoon.

Infuse for twenty minutes, and strain.

This tea has an aromatic and pungent taste, and is particularly recommended in cases of asthma and other disorders of the breast and lungs. It is supposed wonderfully to promote expectoration. The dose may be for adults, one tea-cup full, as often as occasion may require ; children in proportion.

CATNIP TEA.

Take of catnip leaves,	one ounce,
boiling water,	one pint,
loaf sugar,	half an ounce,
milk,	one table-spoonful.

Infuse twenty-five minutes, and strain.

This is an excellent tea for infants. It removes irritation and griping pains, which frequently occur with small children. The dose for a child, one year old, may be one table-spoonful, when occasion may require.

SPEAR MINT TEA.

Take of spear mint,	half an ounce,
hot water,	one gill.

Infuse fifteen minutes, and strain.

This tea is supposed to be one of the most powerful vermifuges in the vegetable kingdom. It is also a warm stomachic, useful in relieving nausea and retching to vomit. Those who have children that are subject to an excess of worms in the alimentary canal, will find the importance of the use of this tea, with other anthelmintic medicines. The dose may be one table-spoonful every two hours, for a child about one year old.

TANSEY TEA.

Take of tansey leaves, one handful,
 hot water, one pint,
 sugar, one table-spoonful.
 Infuse for twenty-five minutes, and strain.

This is a warm deobstruent bitter; useful for children, to destroy worms in the bowels. It may be used similar to the spear mint tea.

PENNYROYAL TEA.

Take of pennyroyal leaves, dried, one handful,
 hot water, one pint,
 Infuse for twenty-five minutes in a covered vessel.

This is a warm pungent aromatic tea, similar to mint, more acrid and less agreeable. It is an aperient, and used in hysteric cases, in doses of one tea-cup full, for an adult.

SASSAFRAS TEA.

Take of the bark of the sassafras root, pounded, or
 scraped fine, one ounce,
 hot water, one pint.
 Infuse for thirty minutes, and strain.

This is a warm aperient and corroborant. It is frequently employed with good success for purifying the blood.

Sassafras oil is a sudorific and diuretic remedy. It is stimulating and heating, consequently should be given in small doses.

The tea as above prepared may be taken in doses of from one to three table-spoonfuls every two or three hours, with a little sugar, to make it more agreeable.

Tænia or Tape-Worm.

SINCE the observations on worms went to the press, I have concluded, that some little information respecting the tape-worm would, by some of my readers, not be considered uninteresting; and feeling desirous of inserting all the useful matter in this work that the small price for the same will possibly afford, I have thought proper to offer the following observations on the tænia, although they should have been placed in some other part of the work.

Of all the worms that have been found in the alimentary canal of the human body, the tænia is considered most dangerous. Still fewer cases of this nature occur than many others which require the anthelmintic treatment. It has been with much difficulty that this worm was expelled, and it is but with little certainty that any known remedy will accomplish the desired object.

Worms of almost an incredible length are said to have been voided from the alimentary canal. Boerhaave says he saw a tænia which measured three hundred ells. Dr. Rosen, formerly first physician to the king of Sweden, gives an account of fragments of tænia that were, some twenty ells, others more than eighty feet long. A mention is also made of one that measured one hundred and sixty-five feet long.

There are properly two kinds of this long worm; the one is called tænia cucurbitina, and the other tænia lata. The former has been supposed to derive its nourishment through its many little marginal orifices, and the latter seems to have no marginal orifices, but has a common mouth in its filament, or thread-like extremity.

The *tænia lata* is distinguished by short rings; it is long and flat. The rings are articulated to each other. It has a vein, running through its whole length, which is more or less apparent. It is called by the Germans the flat spinous worm. It is sometimes of a bluish or reddish complexion, and sometimes simply of a white colour, with one, two or three spots to be seen in the middle of each ring. These spots in some worms are of a blackish color, in others more tending to white, which rises into a very small prominence on each side, and is not very apparent to the naked eye. The tail has scarce ever been examined, because the worm breaks, and is hardly ever voided entire. Portions of this worm are usually voided naturally, or artificially by means of various remedies. Its body is long, and flattened like a ribband or piece of tape. It becomes gradually narrow towards its upper extremity, when it at length terminates in a small thread, to appearance, which is about one foot in length: the point can scarcely be perceived with the naked eye, but when viewed with a microscope, that magnifies powerfully, is found to be the head of the worm, which appears to consist of four horns of unequal length, and which is supposed to be the channel, through which the worm derives its nourishment.

The worm frequently extends throughout the whole intestinal canal, and often reaches even to the anus.— It is called the solitary worm, because there commonly exists only one in the same subject; but sometimes two have been found together, and frequently after one is expelled, a second is generated.

The *tænia cucurbitina*, resembles this worm in some particulars. It is met with also in the intestines, but will be distinguished from it by having neither the appearance of a head, nor a vein that runs longitudinally through its body. Its rings are much longer than

those of the *tænia lata*, and are striated through their whole length. These rings are easily detached from each other, and have appeared to be so many distinct worms, independent of each other. The form of these rings varies considerably; those of the upper extremity are much more complete, shorter, narrower and thinner, than those lower down. They become gradually longer as they approach the lower end. These rings something resemble the seeds of a gourd, and the worm is often called the gourd-worm. It is, like the solitary worm, several feet in length, equally as dangerous, and much more difficult to remove from the body, as it is never voided whole, but by detached portions, which break off from the main body of the worm.

Various symptoms denote the presence of these worms in the human body: such as interrupted sleep; sometimes a craving of food, and at other times a general disrelish for any thing to eat; cholic, nausea, dizziness, itching of the nose, vomiting, and discharges by stool of a whitish colour; sometimes costiveness, tension of the belly, a painful sensation about the stomach, which most always ceases when the patient takes nourishment; sometimes a cough, convulsions, shivering fits and fever occur, and at length, if proper remedies are not administered for relief, the patient falls into a state of marasmus, and death closes the scene. It is not intended to say that these symptoms always indicate the existence of a tape-worm in the intestinal canal. They may all show themselves, more or less, from other causes and other diseases of the human system. The only true symptom, by which a person can with certainty determine the existence of this enemy, is the discharge of a portion or fragment of the same, which may then be determined by examination.

The methods of destroying and expelling these worms have been various; some of which are still employed with but little success; and others, which were once extolled for the virtues they possess in the cure of this disease, are now entirely abandoned and forgotten.—With respect to my own experience, I can say but little, as I have never had but three confirmed cases of *tænia* under my charge in the course of my life, which proved all to be of the *tænia lata*, or broad, long tape-worm.

I shall mention the medicines that are advised by some physicians, for the purpose of expelling this enemy, and shall also mention the treatment I have made use of under similar circumstances, leaving the public to make their own selection of the various articles and modes of treatment, which they may judge to be suitable to produce the desired effect.

Darwin* says, the tape-worm is cured by an amalgam of tin and quicksilver, such as is used on the back of looking-glasses. One ounce should be taken every two hours, till a pound is used, and then a brisk cathartic of glauher's salt, two ounces; common salt, one ounce—dissolved in two pints of water, and half a pint to be taken every hour till it purges. The amalgam tears the worm from the intestines by mechanical pressure, acting upon it the whole way. A case of *tænia*, under this treatment, is communicated by Charles Caldwell, M. D. of Transylvania,† the amount of which is as follows: The gentleman had been troubled with a tape-worm for four years; his physician made use of the following intrepid practice:—

Rp. Quicksilver, }
Tin, } a. a. twelve ounces,

which was amalgamated and divided into twenty-four

* See Darwin's *Zoonomia*, vol. ii. page 44.

† See *Phil. Med. and Phys. Journal*, vol. i. pp. 135, 136.

doses, each weighing one ounce, and one dose was swallowed at regular intervals of one hour. This course was persevered in till sixteen ounces were swallowed, when a disagreeable sensation of weight in his bowels was experienced, and the patient resolved to take no more of this metallic paste. On the following day he took the saline purgative, as recommended by Dr. Darwin, which operated actively and expelled a portion of worm, measuring forty feet, and along with it only a small portion of the amalgam. The main bulk of the amalgam remained in the bowels, which his physician would not believe was the case, and ceased to regard it as an object of his attention. Sometime afterwards the patient went to the city of New-Orleans, although his health was by no means meliorated. During this voyage he found that the whole of the tænia was not yet expelled; and on his return to Louisville, in Kentucky, where he resided, he was determined to finish the experiment he had begun, and accordingly he swallowed four doses more of the amalgam, which, with what he had before taken, amounted to twenty ounces. The saline purgative was also administered, without any discharge of the worm.

Of the whole mass of metallic substance swallowed, only two ounces of it has been discharged; consequently, eighteen ounces still remains in his bowels, which is plainly and distinctly perceptible to the touch. It is of a roundish figure, and its size is supposed to be about that of a pound weight of lead, which is firmly fixed in the intestine. It is supposed to be lodged in one of the cells of the colon, and that a new membrane is formed which closes the mouth of the cell; hence the ball is attached to one spot, but the intestine being moveable, the ball may be made to describe around in a circle, of which the umbilicus of the abdomen constitutes about the centre. It is readily felt between the thumb and fingers, and is attended

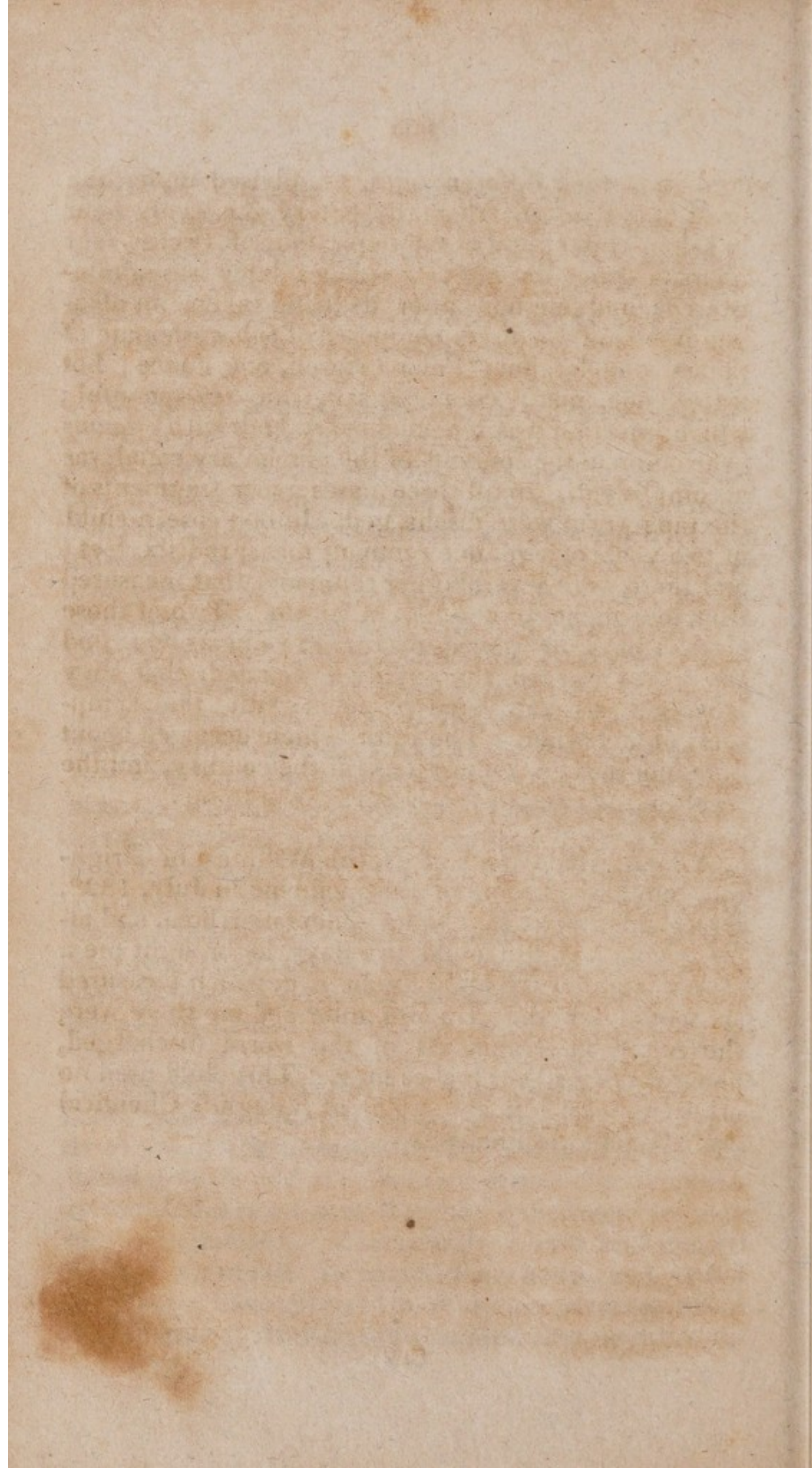
with some disagreeable consequences. The patient cannot ride on horseback without real suffering; nor can he move about any other way with ease, unless he is very cautious. Sometimes he has been troubled with sensations of cholic, although his general health is much better than could be expected.

Under all circumstances I could not advise the use of such a remedy in cases of *tænia*. Iron filings, in large doses, are recommended for this calamity; and also powdered tin. Garlick is advised, and is said, in some instances, to have destroyed the worm. The powder of fern-root has been said to possess great specific powers for discharging, the *tænia*. It is the famous remedy of Madame Nuffer, of Switzerland, for the tape-worm. She acquired the knowledge of it from her husband, who was a surgeon and obtained a great prize of Louis XV. of France, for the secret.—The method of giving it was in doses of from one to two drachms of the powdered root, after fasting several hours, which is followed up by giving active cathartics and clysters to expel the worm. This remedy, it is said, was used with much success for twenty years, although, in some instances, it failed with other articles. Scammony, calomel, corolina pink, and most of the vermifuge medicines now in use, have all been practised sometimes with, and sometimes without success, in cases of *tænia*.

The method of treatment I have made use of for the three cases that have come under my observation, are as follows:—Believing that alkalies and cathartics would destroy and expel other worms in the alimentary canal, I was induced to try the experiment in cases of the tape-worm. Accordingly I have first caused the patient to fast for twenty-four hours, and, at the same time, have given them of my preparation, called the Chemical Anti-Dysenteric Medicine, in doses ac-

according to their different ages, as advised under the head of worms, diarrhœa, dysentery, &c. every hour in salted water; and at the expiration of twenty-four hours, a strong dose of calomel and jalap was administered; and one hour after its being taken, an alkaline injection was used, composed of sub. carbonate of potass, one drachm; Poland starch, one ounce; hot water, one pint; common salt, one tea-spoonful; which injection was repeated every hour till a copious evacuation of the contents of the alimentary canal was accomplished. In all three cases many fragments of the tape-worm were discharged. In one case, a child of two years of age, one remnant measured six feet; and there were several other remnants that measured from four inches to one foot in length. Two of those cases, I have mentioned, occurred two years ago, and the worm was so thoroughly evacuated, that they have not, as yet, been troubled with the symptoms of any other. The third, which occurred about nine months ago, removed out of the country, and the result of the case, as yet, is not known to me.

A man by the name of Nathl. Willings, of Brighton, purchased a phial of this medicine in July, 1822, for a child, that he said had a violent diarrhœa, and after giving it to the child two days, he brought me a tape-worm that the child discharged, which measured six feet in length. He also informed me there were thirteen other fragments of the worm discharged, about three or four inches long. This child used no other remedy but one phial of Vought's Chemical Anti-Dysenteric Medicine.



A GLOSSARY

For the explanation of such technical terms as necessarily have occurred in this work.

A

A. a. of each kind.

Abdomen, the belly ; that part of the trunk below the diaphragm.

Abscess, a tumour which contains pus.

Anodyne, a medicine that relieves pain.

Anus, the fundament, or end of the rectum.

Adult, one of mature age.

Antispasmodic, medicine to remove spasms.

Abortion, premature birth ; miscarriage.

Absorbents, the lacteals and lymphatics.

Acetites, those compounds formed by the union of the acetic acid.

Acidity, sourness.

Acrimony, pungency ; sharpness.

Acute, a violent disease, which terminates speedily.

Affinity, elective attraction.

Adeps, fat.

Alkohol, ardent spirit ; rectified spirit of wine.

Alkali vegetable ; the potass extracted from a variety of vegetable substances.

Amalgam, a union of mercury with some other metal.

Angustura, bark ; that which is imported from Angustura, in South-America. It is a tonic and astringent.

Antiseptics, medicines which prevent the process of putrefaction.

Aperients, gentle laxatives.

Aromatics, such medicines as have a grateful spicy scent.

Arteries, are membranous, pulsating canals—they originate from the heart. The pulmonary artery from the right ventricle, and the aorta from the left; the other arteries are all branches of the aorta. It is by their means that the blood is carried from the heart to every part of the body, for nutrition, and is returned by the veins.

Acites, dropsy of the belly.

B

Bile, a fluid secreted by the liver into the gall bladder, which then passes to the intestines. Its principal use is to correct too great a disposition to acidity in the intestines.

Borax, a neutral salt; the boriate of soda.

Blood, a red homogeneous fluid, of a saltish taste and glutinous consistence, which circulates in the cavities of the heart, arteries and veins. Four parts are contained in the veins, and one part in the arteries. The quantity is estimated to be about 28lbs. in an adult.

Eronchia, the branches of the wind-pipe, dispersed through the lungs.

C

Caries, rottenness of bones, &c.

Carminitive, substances which allay pain, dispel flatulences, &c.

Chyle, a milky fluid, separated from the aliment in the intestines, and conveyed by the absorbents into the blood.

Chylification, converting the food into chyle.

Cathartics, purges of calomel and jalap, &c.

Cordial Mixture, a medicine composed of aqua carbonate of ammonia and spirits of lavender compound, &c.

Chalybeate, medicines containing iron.

Chronic, a disease whose progress is slow and of long standing; in opposition to acute disease.

Circulation, the motion of the blood, which is driven by the heart through the arteries, and returned by the veins.

Cæcum, the first portion of the large intestines, about four fingers breadth in length.

Columba, a root, so called, which is imported from Columba in circular brown knobs, wrinkled on the outside, yellow within. Its smell is aromatic, its taste pungent and bitter. It is used for medicine as a tonic.

Colon, the second portion of the large intestines.

Combustion, is a collection of phenomena, which certain bodies exhibit, when heated with access of air; the principle of which is the continuance of heat, agitation or intestine motion; the emission of light flame and a total change of the matter burned.

Conception, the impregnation of the ovulum in the female ovarium.

Constipation, costiveness.

Corrosive, a substance which possesses the power of destroying the texture of a solid part to which it is applied; caustic, &c.

Cramp, a spasm of a muscle or muscles.

Croup, an inflammation of the trachea.

Cynanche, sore throat. It is known by pain and redness of the throat, attended with difficulty of breathing and swallowing. There are many species of cynanche: 1. *cyn. trachealis* or croup; 2. *cyn. tonsillaris*, when the inflammation attacks the tonsils; 3. *cyn. pharyngea*, when the pharynx is affected; 4. *cyn. parotidea*, or mumps, an inflammation

of the parotid gland; 5. *cyn. maligna*, or ulcerated, malignant, sore throat, &c.

Carbon. The diamond is the only pure carbon; and charcoal is impure carbon. Charcoal exists in the animal, vegetable, and mineral kingdom. It is made more pure by being dried by strong ignition in a closed vessel.

Carbonic acid, cretaceous acid; fixed air; mephitic gas. This gas is contained in chalk, in lime, &c. It is found in subterraneous places, as in tombs, cellars and necessaries. It is disengaged by the decomposition of vegetables; by the fermentation of wine, cider, beer, and by the putrefaction of animal matter. The alkalies contain it. It is unfit for respiration; animals will instantly die in it. It is heavier than common air, and always occupies the lowest situations. It will extinguish a taper. It may be detected by this means—let a candle down in a vault, and if carbonic acid gas be present, it will instantly be extinguished. It is a powerful and highly important medicine, when taken into the stomach, to give energy and tone. The famous lake of *Averno*, where *Virgil* placed the entrance of hell, exhales so large a quantity of this gas, that birds cannot fly over it without falling instantly dead.

Crisis, the time when a disease alters decidedly for the better or worse.

Cutis, the skin.

D

Debility, weakness of the system.

Decoction, a medicine boiled in a watery fluid.

Decomposition, the separation of combined bodies; analysis, &c.

Demulcents, mucilaginous or oily and gummy medicines, which possess a power of diminishing the effects of stimuli.

- Dentition*, the cutting of the teeth.
- Detonation*, the noise produced by the explosion of nitre when heated.
- Diabetes*, an immoderate flow of urine.
- Diagnostics*, such symptoms as distinguish one disease from another.
- Diaphoresis*, perspiration, or sweating.
- Diaphragm*, a muscle that divides the cavity of the thorax from that of the abdomen.
- Digitalis*, fox glove.
- Diuretics*, medicines which, when taken internally, augment the flow of urine from the kidneys.
- Drastic*, such medicine as is violent in its action or operation on the system, as drastic purges, drastic emetics, &c.
- Duodenum*, the first portion of the small intestines, so called from its being about twelve fingers' breadth in length.
- Delirium*, a temporary disorder of the mental faculties.
- Diathesis*, the natural or preternatural disposition of the body, which inclines us to the performance of all natural actions.
- Dura Mater*, a thick membrane that surrounds and defends the brain, and adheres to the internal surface of the cranium.
- Ductus communis choledochus*, the duct or passage which conveys the bile to the intestines. It is about the size of a goose quill, and like biliary ducts in general, is entirely membranous.
- Dysuria*, difficulty and pain in discharging the urine. There are, according to Cullen, no less than six species of this complaint.
- Dyspnœa*, a difficulty in breathing.
- Dysphagia*, obstructed swallowing.
- Dulcis radix*, liquorice root.
- Dyscinesia*, difficult motion ; faulty or defective organs.
- Dyscritus*, an imperfect crisis of any disease.

Dysentery, bloody flux from the bowels.

Dysenteria epidemica, an epidemic dysentery.

Dysophia, depraved sight, requiring one particular distance or one position.

Dyspepsia, difficult digestion; want of appetite; acid eructations from the stomach; with many other disagreeable symptoms and sensations to the patient.

E

Ebullition, boiling. It consists in the change which a fluid undergoes from a liquid to an æriform state, in consequence of applying heat.

Effervescence, such ebullition as takes place when an acid and an alkali are combined.

Efflorescence, the changing of crystals into a white powder, when exposed to air; a redness of the skin; time of the flowering of plants.

Emollient, softening.

Erosion, an eating away of the solids.

Eructations, belchings from the stomach.

Erysipelas, St. Anthony's fire, or red swellings, usually attended with pain and fever.

Electricity, a property which certain bodies possess, when rubbed, heated, or excited, whereby they emit sparks or streams of light.

Enteritis, inflammation of the intestines.

Epilepsy, convulsions, usually froth issuing from the mouth. There are mentioned, by Cullen, several species of this disease.

Excrescence, any preternatural formation of flesh.

Expectorants, such medicines as are employed to promote or increase the discharge of mucus from the lungs.

Expiration, that part of respiration in which the air is thrust out from the lungs.

Exacerbation, the increase of any disease contrary to the word remission, or abatement.

Exanthemata, eruptions; efflorescences; pustules, &c. on the skin.

F

Fæces, the alvine excretions.

Fauces, a cavity behind the tongue, from which the pharynx and larynx proceed.

Febrifuge, a medicine that abates the violence of fever.

Fixed air, carbonic acid gas.

Follicle, a small membranous receptacle.

Fætid, emitting an offensive smell.

Fætus, the child in the uterus of its mother, from the fifth month after pregnancy until the time of its birth.

Formic acid, the acid of the ant, or pismire.

Function, the power or faculty, by which any action of an animated body is performed.

Fungus, proud flesh.

Fusion, a chemical process, by which bodies are made to pass from a solid to a fluid state, in consequence of the application of heat.

Flatulent, windy; producing wind in the bowels, &c.

Formula, a prescription of any medical recipe.

Folium, a leaf.

Fragment, a part of any thing that still remains behind.

Friction, rubbing one thing on another.

Fumigation, application of steam or vapour.

Fusion, melting; converting a solid into a fluid, by the application of heat, as melting lead, &c.

G

Gall, the bitter fluid secreted by the liver.

Galen, a celebrated physician in Asia.

R

Gangrene, a mortification of any part of a body before endowed with vitality.

Gargle, a fluid medicine to wash the throat.

Gas, an æriform fluid; elastic vapor, &c.

Gastric juice, the juice in the stomach, which is the principal agent of digestion.

Gastritis, inflammation of the stomach.

Gentian, a tonic root from Germany or France.

Glauber's salt, sulphate of soda.

Glottis, the opening of the wind-pipe.

Gland, a small round body, that serves for the secretion or alteration of a fluid.

Gum galban, a fœtid, anti-spasmodic gum resin.

Gluten, glue, coagulable lymph.

H

Hæmorrhage, an eruption of blood.

Hæmorrhoids, the piles; a flux of blood from the large veins of the rectum.

Hellebore, bear's foot; a bitter and acrid plant.

Hepatic, belonging to the liver.

Hydrocephalus, watery head.

Hydrophobia, canine madness, from the bite of a mad dog or other animal.

Hypochondriasis, one who is hipped; low spirits.

Hysteria, hysterics; an affection of the womb, in the class of nervous diseases. There are four species of this female complaint, mentioned by Cullen.

Hypogastric region, the lower part of the belly.

Hyosciamus, henbane. The leaves are something like tobacco: it is a powerful narcotic. The extract of the seeds, when properly used, has an advantage over other narcotics, as it does not render the bowels costive. It may be given in doses of from half a grain to three grains.

I

Icterus, the jaundice, characterized by a yellowness of the eyes and skin; *feces* white, &c.

Incubus, the night-mare.

Indication, that which demonstrates in a disease what ought to be done.

Influenza, a species of catarrh.

Injection, a medicated liquid to throw up in any part, by means of a syringe.

Insanity, deranged imagination.

Inspiration, the act of drawing the air into the lungs.

Intermittent fever, an ague, or fever that entirely subsides, and comes on at certain periods—generally with cold chills.

Intestines, the membranous tube, that extends from the stomach to the anus, and receives the ingested food, where it mixes with such juices as prepares it to nourish the body.

Irritability, a property innate in every muscular fibre, by which it contracts upon the application of a stimulus.

Infusion, a substance steeped in water, as tea, &c.

Inflammation, a surcharge of blood, and an increased action of the vessels in any part of the body.

Inspissation, the act of thickening.

Instinct, that principle which governs the propensities of the brute creation.

Intemperance, excess of any kind.

Jejunum, the second portion of the small intestines, so called, because it is mostly found empty.

Jelly, a mucilaginous substance, soluble in water.

Jalap, a native plant of South America. The powdered root is used as a purgative in daily practice, although it frequently excites violent tormina in the bowels of those who take it.

K

Kidneys, two abdominal viscera, that secrete the urine.

They are placed near the first lumbar vertebra, surrounded with adipose substance.

Kino gum, that which comes from the kino tree in Africa. It is a powerful astringent medicine.

Kelp, soda, or natron, from the ashes of a sea-weed, called kelp.

L

Lacteals, the absorbents of the mesentery, which originate in the small intestines and carry the chyle to the thoracic duct.

Lactic acid, the acid of sour milk.

Larynx, a cartilaginous cavity, situated behind the tongue, lined with a sensible membrane.

Lethargy, a heavy and constant sleep, with no disposition to remain awake.

Ligament, a strong elastic membrane, that connects the extremities of bones.

Lime, a calcareous earth, composed of shells, marble, &c. by the action of fire, which deprives them of their acid.

Labor, parturition.

Languor, debility, with depression of spirits.

Liniment, an oily substance between an ointment and oil, but still so thin as to drop.

Lobelia, a plant, the blue lobelia or cardinal flower.

Lungs, the organs situated in the cavity of the chest, by means of which we breathe.

Luxation, dislocation of any joint.

Lymph, a crystalline, tasteless fluid, contained in all the absorbent vessels except the lacteals.

Lymphatics, absorbents that carry a transparent fluid, called lymph.

Litharge, calcined lead.

M

- Mace*, the middle bark of nutmeg.
- Maceration*, a substance softening in water.
- Macies*, a wasting of the body.
- Magic*, enchantment.
- Magnetism*, the property that iron possesses of being attracted by the magnet.
- Magnesia*, an earth which is obtained from Epsom salt. It is in form of fine white powder. It is an absorbent antacid, and gentle purgative.
- Malleability*, the property which metals possess of being extended under the hammer into thin plates, without cracking.
- Manna*, the condensed juice of the *fraxinus ornus* of Linnæus. It is a mild sweet purgative, given to children and pregnant women.
- Marasmus*, a wasting away of the flesh.
- Mastication*, chewing the food; a natural function which prepares it for swallowing.
- Maturation*, that process which succeeds inflammation, by which pus is collected in an abscess.
- Membrane*, a thin substance, whose elastic fibres are so arranged as to allow of great pliability; a network of fibres.
- Menorrhagia*, an immoderate flow of the menses.
- Mercury*, quicksilver.
- Mesentery*, the membranous viscus in the cavity of the abdomen, attached to the vertebræ of the loins, and to which the intestines adhere.
- Mesocolon*, the portion of the mesentery to which the colon is attached.
- Microscope*, an instrument to magnify small objects.
- Mineral waters*, waters which contain certain minerals in solution, and are impregnated with them.
- Micturition*, voiding urine, or making water.
- Mortification*, gangrene, corruption, &c.

Morbid, diseased, out of order, &c.

Musk, that substance which is contained in a bag near the umbilical region of a ruminating quadruped resembling the antelope, which is one of the same species.

Mucilage, a solution of gum.

Muriates, salts formed by the union of muriatic acid with different bases, such as muriate of ammonia, muriate of lime, &c.

Muscles, the organs of motion.

Myology, the doctrine of the muscles.

Myrrh. The tree that affords this gum resin grows on the eastern coast of Arabia. It is used in medicine as a corroborant and anti-septic.

N

Nausea, a disgust of food, a sensation approaching to vomit.

Nephritis, inflammation of the kidney.

Nerves. They are long, white, medullary cords, that serve for sensation: they originate from the brain, and are distributed all over the body that is sensible.

Nervines, medicines to relieve disorders of the nerves.

Neutral salts, are such as do not possess the character of acid nor alkaline salts.

Nitre, nitrate of potass; saltpetre.

Nitrates, salts formed by the combination of nitrous acid and other bases.

Nosology, the doctrine of the names of diseases, and arrangement of the same, such as classes, genus, species, &c. &c.

Nutrition, the increase or nourishment which the body receives. It is a consequence of digestion and circulation.

Nostalgia, a species of melancholy ; broken heart ; a disease from attachment to any person or place ; national insanity.

O

Occiput, the back part of the skull.

Obstipation, costiveness.

Edema, swelling of any part.

Esophagus, the membranous and muscular tube that descends in the neck, from the pharynx to the stomach.

Olfactory nerves, the first pair ; they are the organs of smelling, situated in the nose.

Omentum, the caul ; an adipose, membranous viscus of the abdomen, that is attached to the stomach, and lies on the anterior surface of the intestines.

Ophthalmia, an inflammation of the membranes of the eye, distinguished by redness, pain, heat, &c.

Opiates, medicines that procure sleep.

Oxydes, substances formed by the union of oxygen with other bases.

Oxygen, the basis of vital air ; the acidifying principle ; all acids have vital air for their bases. It is the supporter of combustion : it is called the air of fire, as no combustion can take place without it : animals cannot live without it. The basis of vital air, united to the basis of inflammable gas, constitutes water. It discolours vegetables and animal substances. Its use is highly important.

Oxymel, a compound of vinegar and honey.

P

Palpitation of the heart, an increased action of the blood through the heart, attended with a disagreeable sensation.

Pancreas, a glandular viscus of the abdomen, seated in the epigastric region under the stomach, composed of small glands.

Palsy, a disease known by a loss of the power of voluntary motion, affecting certain parts.

Paroxysm, a periodical exacerbation, or fit of disease.

Pathology, the doctrine of diseases.

Pelvis, the cavity formed by the bones of the pubis, sacrum, and innominata.

Pectorals, medicine that relieves disorders of the breast.

Perspiration, the matter discharged from the skin in form of sweat.

Peripneumony, inflammation of the lungs.

Pharynx, the muscular bag at the back of the mouth, adheres to the fauces and terminates in the œsophagus, where it conveys the food.

Phosphates, salts formed by the union of phosphoric acid with different bases.

Physiology, the science which treats of the knowledge and powers of an animated body.

Pleurisy, an inflammation of the pleura; that membrane which lines the internal surface of the thorax.

Principles, primary substances.

Pubis, the lower part of the abdomen, where the bones of the pelvis are joined before.

Pulse, the beating of the artery at the wrist is called the pulse.

Pus, a whitish, cream-like fluid.

Putrefaction, that process by which a substance is decomposed and dissipated in the air in the form of putrid gas.

Pylorus, the inferior part of the stomach, which opens into the intestines.

Prognostics, symptoms of life or death; the increase or decrease of a disease.

Pubes, the privy parts.

Q

Quassia. The root, bark and wood of this tree, are called quassia. It is a bitter tonic and stomachic.

Quicksilver, crude mercury.

Quinsey, an inflammation of the throat.

Quotidian ague, a fever with chills returning after an interval of twenty-four hours every day ; a distinct intermittent fever.

R

Recipe, a receipt for making compounds.

Receptaculum chyli, receptacle of the chyle.

Rectification, a second distillation, in which substances are purified, and foreign substances separated from them.

Rectum, the last portion of the intestines in the pelvis.

Respiration, a compound action, consisting of inspiration and expiration.

Rhubarb, a purgative, bitter and astringent plant. The root is used as medicine.

Rheumatism. This disease is characterized by pyrexia, pains in the joints, heat in the part affected, &c.

Rubefacients, such medicines as, when applied to the skin, induce redness without blistering.

Roborants, strengthening medicine.

Rosemary. The leaves and tops of this plant have an aromatic smell and a bitter taste ; they are a corroborant and stimulant.

Regimen, regulation of the diet, &c.

Rigor, a coldness on the surface of the body.

Rue, a scrubby plant, which holds its green leaves through the winter. It has an ungrateful smell and a penetrating taste. It is stimulating and detergent. It is mostly out of use of late years.

S

Savine, (*Juniperus sabina* of Linnæus.) The leaves and tops have a strong, disagreeable smell, and a hot, bitterish, acrid taste. A strong decoction of this plant, in lard, forms an ointment, which is used for to keep up a constant discharge from blisters, and other purposes. It is called *savine cerate*. (See Thacher, page 559.)

Sacrum, the posterior bone of the pelvis, at the lower end of the spine.

Sago, a dry substance obtained from the pith of a species of palm, in the islands of Molucca, Java, &c. It is used as diet in cases of sickness.

Saint Anthony's fire, erysipelas.

Saline substances, those which are in the form of salts.

Saliva, or *spittle*, the fluid secreted by the salivary glands of the mouth. Its use is to moisten the cavity of the mouth, mix with the food, and to fit and prepare the mass to be swallowed.

Salivation, increased secretion of saliva, usually produced by small doses of mercury.

Sage, the *salvia officinalis* of Linnæus. It is a carminative, stimulant and tonic. An infusion of the leaves with lemon juice forms a useful and agreeable drink in febrile diseases.

Squill, the *scilla maritima* of Lin.; a native of Spain and Sicily, growing on the sea coast. It is nauseous and bitter. It is an emetic and expectorant, used in cases of asthma, dyspnœa, &c.

Sanguiferous, bloody; conveying blood.

Schirrus, a hard knotty tumour of a glandular part, indolent, and not readily suppurating.

Scrophula, the king's evil, known by a swelling of the lymphatic glands, thick upper lip, obstinate ulcers, &c.

Secretion, a function by which different organs separate from the blood substances for certain uses, as that of the bile, saliva, &c.

Sedatives, such medicines as diminish energy, without destroying life, as opium, hyosciamus, &c.

Seneka, or rattlesnake root, because it was said to be a specific against the poison of this serpent. Its use is considered important as a medicine. It occasions a discharge by stool, urine and perspiration. It may be given so as to operate as an emetic, cathartic, expectorant, diuretic, and diaphoretic. It has been used to much advantage in cases of inflammation of the lungs, croup, pleurisies, catarrhs, &c. &c.

Senna, or Egyptian cassia, a native of Egypt. Its leaves are used as a purgative.

Septic, nitric ; relating to putrefaction.

Serpentaria Virginiana, Virginian snake-root. Its powers are tonic, antiseptic, stimulant and diaphoretic.

Sinapism, a mustard and vinegar poultice.

Spasm, involuntary contraction of the muscular fibres.

Spontaneous, a voluntary action.

Spermaceti, an oily substance, obtained from the cavity of the cranium of several species of the whale.

Spine, a bony column, extending in the posterior part of the trunk, from the occipit to the sacrum. It is composed of twenty-four bones, called vertebræ.

Spleen, a spongy viscus in the left hypochondriac region, near the curvature of the stomach, and under the ribs.

Sporadics, such diseases which are confined to a place, a person, or season.

Spuma, froth, or foam.

Scybula, hardened fæces, resembling round balls or bullets.

Sternum, the breast bone.

Stimulants, medicines which excite the animal energy.

Stomach, a membranous receptacle in the epigastric region, which receives the food from the œsophagus.

gus. Its figure is somewhat oblong and round, and has been compared, in shape, to the bag of a bag-pipe. Its superior orifice, where the œsophagus enters it, is called the cardia; and its inferior, where the intestine begins, is called the pylorus. It is composed of three coats or membranes, the outermost which is firm, the middle which is muscular and thick, and the innermost or villous coat, which is covered with exhaling vessels and mucus. These coats are connected together by cellular membranes. The use of the stomach is to excite hunger and partly thirst; to receive the food from the œsophagus, and to retain it, till by the motion of the stomach, the admixture of various fluids, with many other changes, it is rendered fit to pass the right orifice of the stomach, and afford chyle to the intestines.

Strangury, a difficulty of making water, attended with pain and irritation.

Stupor, numbness; senseless.

Subsultus tendinum, weak, convulsive motions and twitchings of the tendons, particularly those of the wrist, which are observed in extreme cases of typhus or putrid fever.

Sudorifics, such medicines as produce sweat.

Sulphates, salts formed by the combination of sulphuric acid, with different bases.

Sulphur, brimstone.

Suppuration, that morbid action by which pus is deposited in inflammatory tumours.

Suture, the union of bones by means of dentiform margins, as in the bones of the cranium.

Sublimate, the condensed fume of a solid.

Submersion, any thing that is put under water.

Sympathy, to sympathize; to suffer together; when an affection takes place in any part remote from another which is diseased, and the affection depends upon this disease, it is said to arise from sympathy

- or consent of parts, through the medium of the nerves ; thus, pain in the head from a disease of the stomach ; locked-jaw from a disease of the toe, &c.
- Syncope*, fainting ; the respiration and action of the heart becomes weaker than usual, with paleness and coldness. The remedy should be a stimulus, or cordial, such as spirits of hartshorn, lavender, camphor, ether, &c. placing the body in a recumbent posture.
- Synocha*, inflammatory fever.
- Symptom*, a sign of disease.
- Syringe*, an injection-pipe.
- Synochus*, a continued fever, beginning with symptoms of synocha, or inflammation, and commonly ending in low fever, or what is called typhus.
- Synovia*, sinew water ; the fluid which keeps the joints moist and lubricated.

T

- Tabes*, wasting of the body.
- Tænia*, the tape-worm, which sometimes occurs in the intestinal canal. It is characterized by a long flat body, with many joints. It something resembles tape, and is often difficult to remove from the intestines. It is considered the most dangerous of all the worms that are met with in the human body.
- Tartrites*, salts formed by the combination of tartareous acid and other bases, as the tartrite of potass, or cream of tartar, &c.
- Tendon*, the white extremity of a muscle.
- Tenesmus*, a continual inclination to go to stool.
- Tetanus*, spasm, with rigidity, frequently of the whole body ; the locked-jaw, &c.
- Thoracic duct*, the trunk of the absorbents, about the diameter of a crow quill. It lies upon the dorsal vertebræ, between the aorta and vena azygos. It receives the absorbent vessels from every part of the body.

Thorax, the chest between the neck and abdomen.

Tonics, medicines which increase the tone of the muscular fibre.

Tormina, gripes; pains in the bowels, &c.

Torpor, a numbness; deficient sensation.

Trachea, the windpipe.

Trituration, the act of reducing any substance to powder or fine parts, by rubbing or grinding, &c.

Typhus, stupid; a species of continued fever. There are two kinds of this fever mentioned by authors.—

Typhus Mitior, from the attack at the commencement being gradual, and the symptoms mild, with not much indication of putrescency, although stupor. It frequently attacks those who study much, and lead a sedentary life. *Typhus Gravior*, malignant fever, which shows evident signs of putrefaction after a continuance of a few days. The pulse is small and frequent, countenance livid, tongue brown, or black, breath foetid, the skin intensely hot, and foetid stools are discharged, with an increase of every malignant symptom, till a change takes place, or death closes the scene.

U

Ulcer, a sore, or purulent solution of continuity.—

There are several species of ulcers.

Umbilical region, that part of the abdomen between the epigastric and hypogastric regions.

Ureter, the canal which conveys the urine from the kidneys to the bladder.

Urethra, the channel through which the urine passes.

Urticaria, the nettle rash, a species of exanthematous fever, with an eruption on the skin, like that produced by the sting of the nettle.

Uterus, the womb.

Uresis, a discharge of urine.

Uterine hæmorrhage, excessive menstrual discharge.

V

Vaccination, inoculation for the cow poek.

Valerian, valeriana officinalis of Linnæus. The root of this plant has been supposed an efficacious remedy in cases of epilepsy. It is exhibited in hysterical diseases.

Valves, membranous folds in certain vessels, as arteries, veins, &c. whose office is to prevent the contents of these vessels from flowing back.

Vermifuge, a medicine that will destroy worms.

Vertebræ, the bones of the spine.

Vertigo, giddiness.

Virus, a synonym of contagion.

Viscus, any organ which has an appropriate use; as the viscera of the abdomen, &c.

Vital functions, those actions of the body upon which life immediately depends, as the circulation of the blood, respiration, &c.

Viper, a serpent; the adder.

Viperina, Virginian snake-root.

W

White swelling, a painful swelling of a joint, with a wasting of the muscles of the lower part of the limb.

Z

Zinc, a brilliant, bluish white, semi-metallic substance.

Native zinc is very rare, but is mostly found in a state of calx, or calamine stone.

Zingiber, the narrow leaved ginger.

[The text on this page is extremely faint and illegible due to significant water damage and fading. It appears to be a single paragraph of text.]

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