

Systematic treatise on medicine : being a collective treatment of fevers and other general complaints : to which is added the medical properties, uses and doses of remedies collected from the animal, vegetable, and mineral kingdoms : also, sketches on anatomy, surgery, and chemistry : particularly adapted to the use of physicians, students, and families / by Buell Eastman ; additions by J.C. Ashby and R.T. Tibbets.

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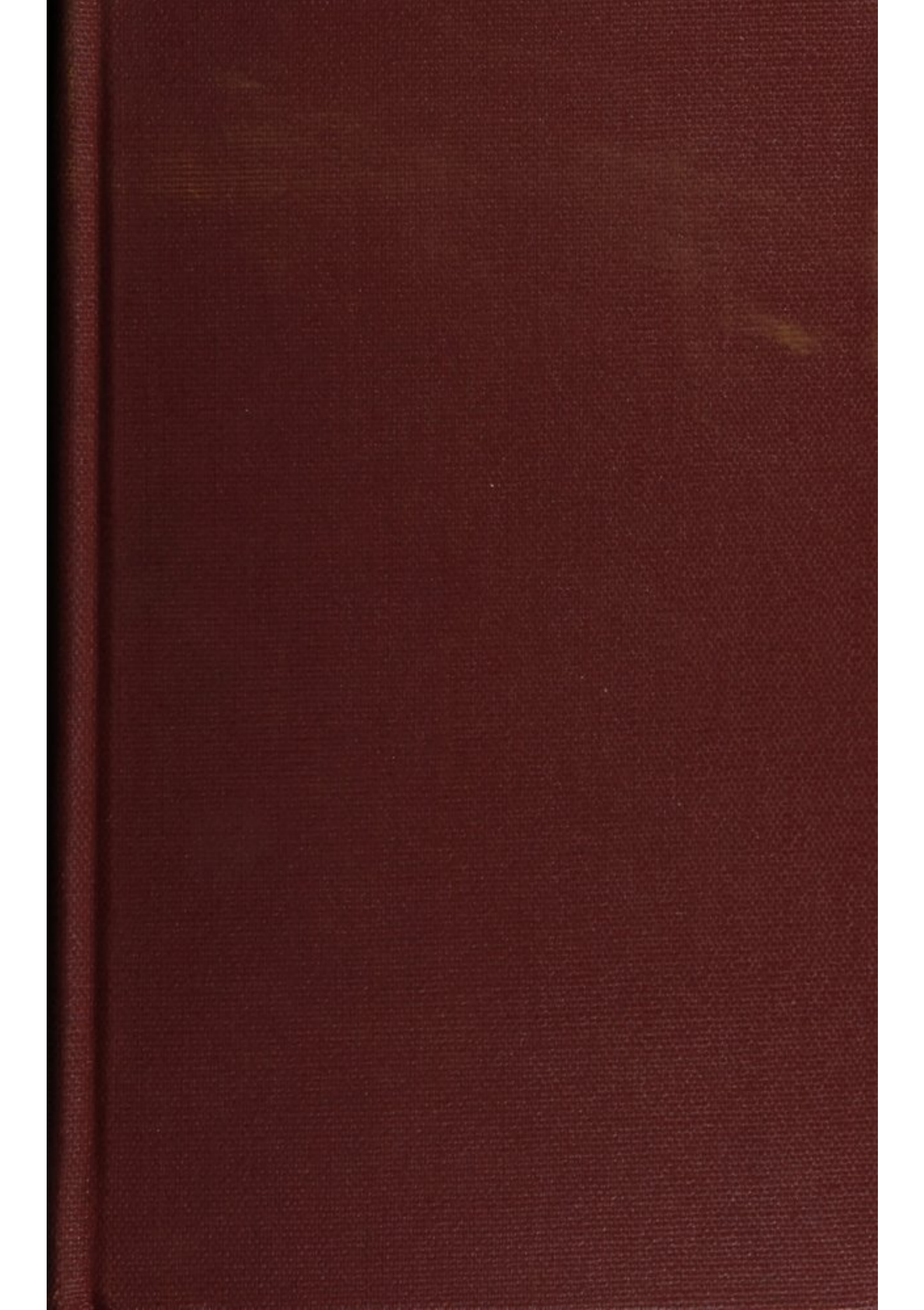
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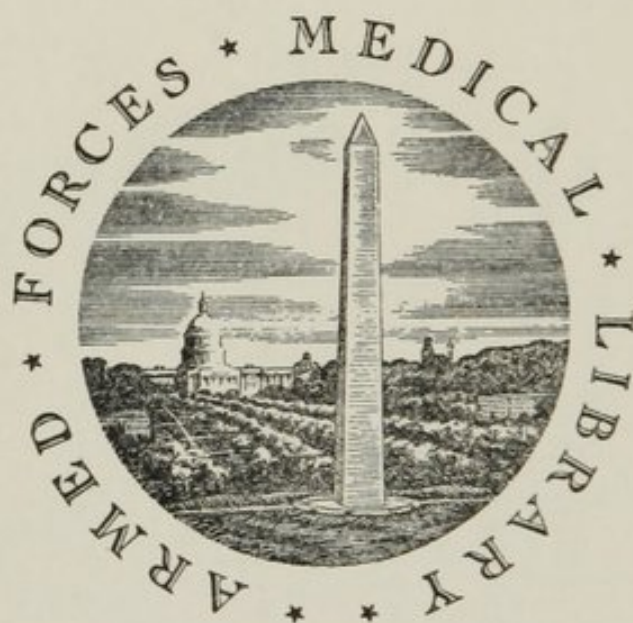
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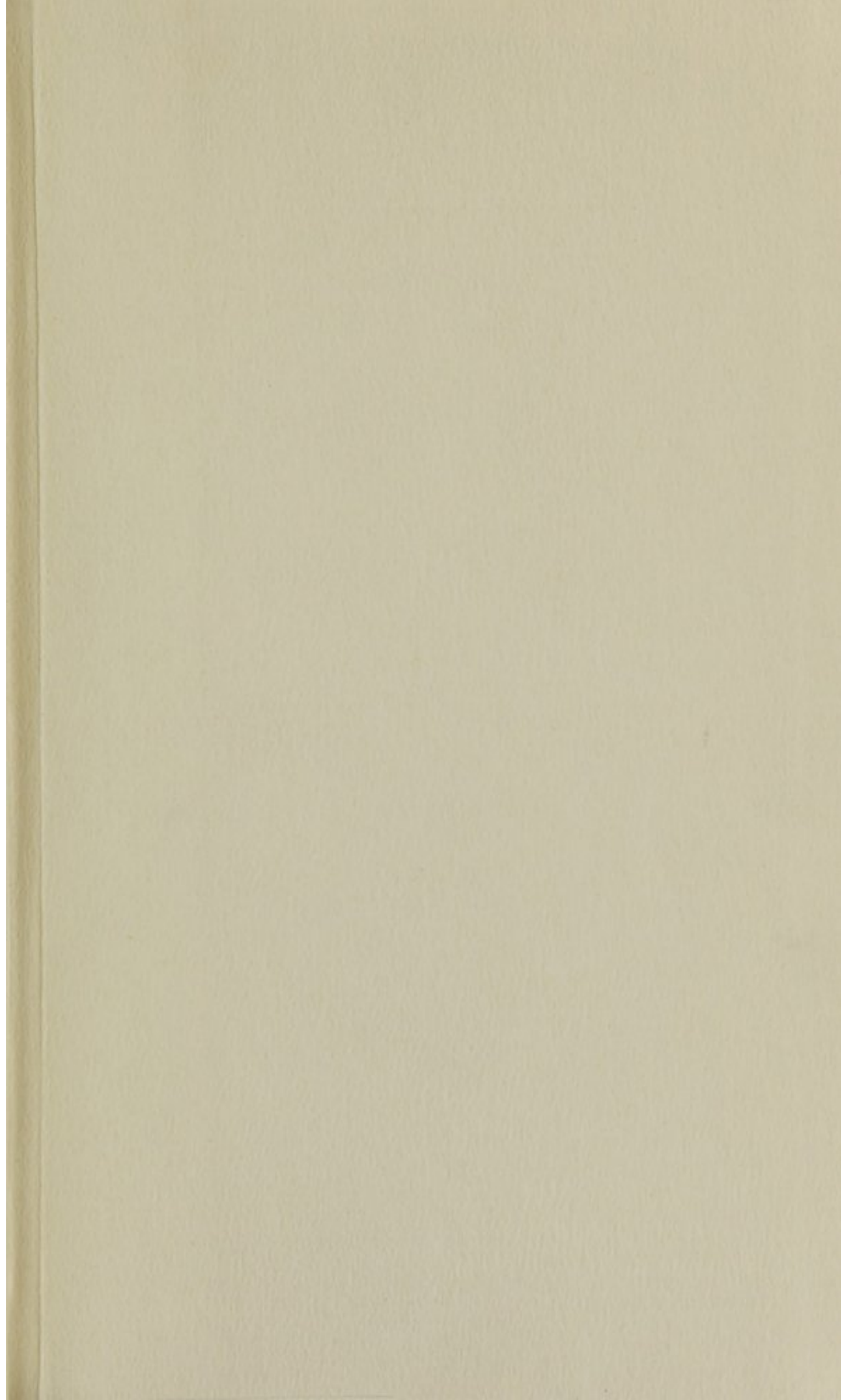


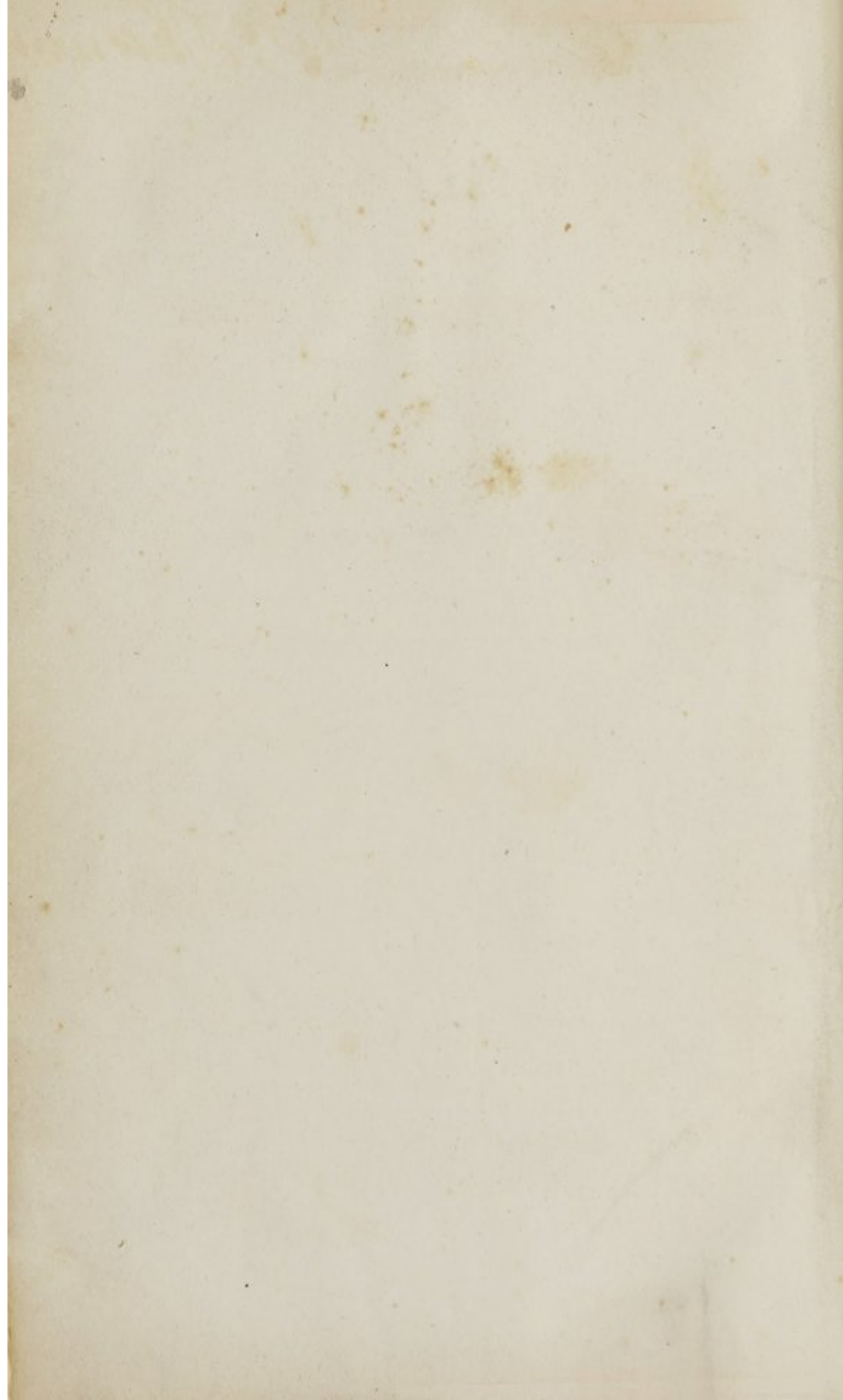
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N. L. Shennan

SYSTEMATIC TREATISE

ON

M E D I C I N E,

BEING

A COLLECTIVE TREATMENT OF FEVERS

AND OTHER

GENERAL COMPLAINTS,

TO WHICH IS ADDED

The Medical properties, uses and doses of Remedies

COLLECTED FROM THE

ANIMAL, VEGETABLE, AND MINERAL KINGDOMS.

ALSO,

SKETCHES ON ANATOMY, SURGERY, AND CHEMISTRY: PARTICULARLY ADAPTED
TO THE USE OF PHYSICIANS, STUDENTS, AND FAMILIES.



BY BUELL EASTMAN, M.D.

President of the Endermic Society of Medicine, and senior member of the Medical Society of Cincinnati—author of a "Practical Treatise on diseases peculiar to Women and Girls, and an Eclectic system of Midwifery."

ADDITIONS BY DR. J. C. ASHBY, OF THE REGULAR DEPARTMENT, AND BY DR. E. T. TIBBETS, OF THE BOTANIC DEPARTMENT.

CINCINNATI:

1846.

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PLAN OF THE WORK.

THIS *practical* hand book is a double work; embracing the regular and botanic systems of practice, in all their native purity, according to their improved and standard works. With a single glance, the reader can see the ways and means each system employs in removing disease from the human system. A double treatment and remedies will of course afford a double opportunity of information, and chance of recovery, to those who are not chained to the car of partyism. Freed, as it is, from unexplained technical phrases, theoretical speculations, and medical prejudices and hostilities, it is calculated to let each one judge of the merits of the two systems, without a single expression from the pen of the compiler. Treating upon facts, as deduced by experience, and not indulging in opinions, speculations, and abstruse sentences, we have enclosed in those pages, nearly ten times as much real matter as can be found in any other medical work now extant. The truth lies in the comparison. 1st, the plan of arrangement is such as to bring a great amount of matter in a little space: 2nd, to include under appropriate heads its own definite matter: 3rd, to present a new and clear arrangement of diseases and remedies, so that they can be speedily comprehended and permanently retained: 4th, to present a practical synopsis of both systems of medicine, without interfering with each other. I wish the regular and botanic friends to avail themselves of the benefit of this new and practical work. It will enable them, "as it were, in a moment of time, to see the course pursued by each party in preventing and removing disease, and understanding the remedies employed for this specific purpose.

PREFACE.

YEARS roll on: the pulse of Time is still beating: the wheels of Nature carry down all the living, with a constant and rapid motion. We are born: we live: we die, and are forgotten amidst the bustle of coming years. We are now the actors upon the stage of time: each one plays his part and retires behind the curtains of death: but, our motto should be, what can each do to ameliorate the sufferings and better the condition of the human race? One thought calls to mind the astounding fact, that, we are not so favorably situated as when man first entered upon his career, and Old Time began to measure out his days, months, and seasons. In consequence of one false step, the earth, the air, and the sea, abound with noxious agents which more or less war against man, and poison the cup of human happiness. But, amidst this state of suffering and death, we are not left entirely without some healing balm, or remedial agent, which, when properly understood and applied, will, in some measure, palliate, restore, and bring back our disordered and shattered frame to a healthy state. Slow and gradual has been the march of medical science—each one improving on the experience and blunders of others, until some general conclusions have been drawn, and some important facts

have been well established. Of late, simplicity and reform have been going on, until much has been accumulated and applied, in a short space of time; and the extreme simplicity of arrangement and reform is not yet at an end:—it has been vastly more rapid in recent times than ever; and, it still seems to proceed with increasing celerity. The confusion of past time—the jargon of technical terms, will soon be converted into a scene of beautiful simplicity and harmony: and the progress which is still to be looked for, in the medical world, instead of threatening men who seek a medical education with additional labor, promises to convert their necessary labor almost into amusement.

The following work claims no higher merit than that of being a faithful abridgement of all the known facts and experience of former writers; and, the author has endeavored to glean all the essential matter from all the standard and improved works: arrange and express the matter in as short and compact style as possible, in order that the reader may have a practical hand-book in a moment when most needed; and, he has carefully avoided repetition, and expunged inert and useless remedies, introducing only the good, the better, and the best: and, the especial object of the author of this volume has been to present the physician and reading public with an authentic digest of the most important facts relative to the history, symptoms, causes, and treatment of diseases; and, it has been his aim, throughout, to adapt it, as much as possible, to the condition and comprehension of the common people, among whom it is designed to circulate, and to whom, he trusts, it will be of incalculable value. The author flatters himself that, it will not be thought beneath the

dignity of the profession, as the statements are practically and scientifically correct; and, he has endeavored to divest himself of all prejudices, not having allowed his former teachings to intermingle with a faithful narration:—he claims no merit for originality, but hopes the whole will prove useful, as a medical guide, for families and physicians. The present volume is one of intense interest, and should be in the library of every family, as it suggests reflections of the most important kind: it is not wedded to any system of the day: it attempts not to raise a party or prejudice, against the animal, vegetable, or mineral kingdom; but faithfully to bring forward things new and old; to collect, and arrange, from the jarring and discordant systems, the truth, the facts, and the improvements in medical science, and thus furnish an important work to an impartial and unprejudiced mind. The history, cause, symptoms, and seat of disease, are questions upon which there can be but little or no dispute; the only difference seems to be in the selection and administration of remedies. It is then the design of the author of this work to furnish the public with a plain, concise, and systematic treatise on diseases, regardless of the party lines they may have drawn.

In preparing the present work the author has availed himself freely of the labors of his predecessors. The compiler's original intention was, to have given to each author the merit of the particular selection from his work; but, having occasion to consult, frequently to abridge, and sometimes to alter, various passages in order to compress and bring them within the narrow limits of the present work, he has thought it would not be attended with any particular advantage to the reader,

as the special object of the work is, the prevention and cure of all those diseases that necessarily arise out of the frailties and imperfections of our nature. Although the author should cross the established views of many, yet, it is believed that the present treatise will be found, upon a fair trial, to contain the most speedy and effectual plan for the cure of diseases. The author is well aware of the responsibility he has assumed, in venturing to offer to the public, a work of this kind; differing, as it does, from the party works and party zeal espoused by physicians in relation to the theory and treatment of diseases. Party politics may be endured; but, when we surround the bed of suffering, our prejudices should subside, and the best therapeutic agent should be promptly administered: self interest should be forgotten, complicated names and unmeaning technical phrases should not be used: empiricism should be abandoned: the human mind should be left free, and continually verging towards the truth, though it may never reach it, in relation to all the facts of medicine; yet the car of truth should be pushed forward, for the purpose of simplifying and facilitating its progress. A new era has dawned upon the world—a more clear and comprehensive spirit is pervading the whole science of medicine; and the theories of former ages are crumbling into decay, and falling prostrate before the fabric of more substantial materials. It is often asked, what good a medical work will do in a family? are you exempt from disease and the common laws of mortality; do you not want knowledge of *causes*, to know how to prevent diseases—*symptoms*, to know how to distinguish them—*properties*, to know how to apply means—*treatment*, to know how to relieve pain—

discrimination, to know how to estimate nostrums and apply timely administration—*experience*, to know how to detect error—avoid imposition—and save expenses? It is not supposed you can all become skilful physicians, but that you may acquaint yourself with diseases and dangers, which most immediately interest yourself and family, and gather around you those cures and preventives which will most promptly relieve you in times of distress.

MEDICO-BOTANIC INTRODUCTION.

TRUTH is a unit, but may be looked at in two ways, and he is a wise and great man who can divest himself of prejudice long enough to ponder and weigh both sides of any question. No proposition should be discarded because it is *new*, or comes from high or low sources, neither because it does not tally with our former training, or correspond with our stereotyped prejudices. The medical science, above all, is of vast and thrilling importance, as it purports to deal with the lives and destiny of men, in this world, and should remain untrammelled from prejudice, self interest or popularity. Whatever most conduces to health, ought

to be resorted to in a state of disease. As wise men differ in regard to science, laws, and religion, it will not be thought strange for *doctors* to differ in the selection, administration, and *modus operandi* of medicine. Vast and rapid improvements have been going on in all the manipulations of husbandry, mechanical arts, and sciences; and has not the healing art received her share of attention and elevation, with her sister sciences? The very improvements which we now witness in medicine, were once condemned; and its votaries and advocates were denounced as misanthropists; and why should it be thought incredible, that the innovators should now receive the anathemas that were formerly heaped upon our predecessors? Inasmuch as I have already given the history, symptoms, diagnosis, prognosis, and sequela, *multum in parvo*, (much in little space,) I thought it would be inexpedient to repeat them again, as they will answer for both systems of practice; and I hope that they will be carefully studied by every student of medicine.

It is here worthy of remark, that, inasmuch as I regard what has been written on history, symptoms, &c., as correct, and well calculated to instruct the enquirer after truth, so have I omitted much that might be said on regimen, diet, &c., which I should have inserted, had I written a separate and independent work; therefore, this apology will be sufficient for the shortness of the botanic treatment, as I have barely given the full, essential, and most important facts, in the curative process. The beauty of any work consists in the great amount of matter encompassed in few words. The condensation, and arrangement of the matter, is mostly the work of the author, but for the foundation of

the matter itself, the improvement, and the skill manifested in removing disease, the compiler is indebted to other men, who are truly the benefactors of mankind. The botanic system is certainly worthy of a place in medical books, from *three* considerations:

1st. If it be sound, true, and useful, it is worthy to be understood.

2nd. If it be false, and cannot be relied on, in removing disease, it should be known, and avoided.

3rd. No person knows the truth or falsehood of any system which he has not examined; therefore, no reasonable, honest, and scientific person, can reasonably object to the place I have assigned it in this important work. Like all other arts and sciences, it has had its germ, its growth, and its maturity; and no doubt but that it has passed through illiterate and incompetent hands; but other men, and other minds, have been directed to this subject, and it now stands upon a basis to which it was once a stranger.

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and, which can only be the consequence of a
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PART I.

CHAPTER I.—SECTION I.

GENERAL REMARKS ON FEVERS.

1 ¶ FEVER (*from *ferveo* to burn,*) is a disease characterized by an increase of heat, accelerated pulse, a foul tongue, and an impaired state of several functions of the body. It is a disease of every age, sex, and climate, and prevails in every season of the year: every part or function of the system is more or less involved and impaired by it; and every complaint is generally attended by some febrile symptoms. Fever is the most important, because the most universal, and the most fatal, of all the morbid affections of which the human body is susceptible. It is in this form of disease that the destroying angel has made his most desolating and destructive visitations; and, for nearly three thousand years the human mind has been engaged in investigating and theorizing on the pathology and treatment of fever. Theories have risen and sunk again in continual and rapid series of succession: each has had its hour and its votaries, but the stream of time has, hitherto, overturned most of these unsubstantial, though highly wrought, fabrics. The dreams of speculation have vanished. Hypothesis is no longer tolerated in medical science. Philosophy and experience do not acknowledge her

as a legitimate servant. The cycl^{us} of her empire has gone by, and the genius of rational induction is now the only power under whose direction the votary of science presses forward to conquest in fields of knowledge. The great mass of solid materials which have been thus gradually accumulating, has now, in a great measure, displaced those vague and hypothetical foundations, upon which former doctrines, in relation to this subject, were constructed.

2 ¶ FEVERS, like many other diseases, are difficult to define or express in appropriate terms. It is only by taking an assemblage of all its symptoms that we can judge of its presence or absence; and, it is by watching its rise, progress, and termination, that we can estimate the danger in each particular case. By making a general collection of all the symptoms, we may venture to call it a disease which affects the whole system; the head, trunk, and extremities; the skin, fibres, and membranes; the circulation, absorption, and secretion; the functions of body, and likewise the mind. It does not, however, affect the various parts of the system, uniformly and equally, but, on the contrary, one part is much more affected than another.

3 ¶ SYMPTOMS. There are generally *six* leading symptoms of fever; the characteristic features by which its presence may always be detected.

1st. Chilliness, or diminution of nervous energy, succeeded by increased heat of skin, is the first and leading feature of fever. The rigor or shivering is sometimes slight, at other times it is exceedingly violent. The mental and muscular languor, lassitude,

diminished temperature, weak and contracted pulse, in many cases, is very conspicuous.

2nd. The second great feature denoting the presence of fever, is an increased heat of *skin and frequency of pulse*. The increased temperature of the body, or excitement, is often very great, at other times much less.

3rd. The third initial symptom of fever consists in a loss of *muscular power*, marked by the occurrence of languor, fatigue, and great pain referred to the muscles and joints, particularly of the head, back, and extremities.

4th. The deranged functions of body, animal, vital, and natural, characterized by *loss of appetite, nausea, and vomiting*, connected with great thirst, are strong indications of the presence of fever.

5th. The *restlessness and want of sleep*, which occur in febrile diseases, are characteristic symptoms which deserve notice: they are seldom wanting in the early stages of fever, and are peculiarly distressing to the patient.

6th. The diminution, depraved, and altered state of the secretions, and excretions, constitute the last initial link in the chain of morbid actions which occur in the development of fever. This is exemplified in the dryness of the mouth and skin; by furred tongue, urine scanty and high colored; dark, foetid, and costive stools; hurried breathing; offensive breath; suffused eyes; altered expression of the countenance; changed state of the blood, and the morbid appearances on dissection.

4 ¶ Having thus explained the general, leading

symptoms of fever, it is proper here to remark, that, they are not usually always present or conspicuous in every single case of fever, nor do they always occur exactly in the order of succession in which they are penned down, but usually the morbid actions which constitute fever, are. first, derangement in the nervous and sensorial functions; this is the invariable antecedent: secondly, derangement in the circulating function; this is the invariable sequent: and, thirdly, derangement in the secreting and excreting functions; this is the last result in the succession of morbid changes: derangement in the function of secretion and excretion never comes first in the series: derangement in the nervous and sensorial functions never comes last in the series: derangement in the function of the circulation comes neither first nor last in the series, but always the second in succession.

5 ¶ FEVERS generally commence by a *local irritation*, or morbid excitement, caused by poisonous, ærial, or gaseous agents, absorbed or received into the system through the medium of the skin, lungs, cells, or surfaces, thereby entering the circulation and making their direct impression on the nervous extremities of the internal membranes of the vascular system, and thus excite febrile reaction, without the previous establishment and agency of local inflammation. Evident, therefore, as it unquestionably is, that fever may, and often does, arise from morbid impressions, made *primarily* on the vascular system; it is nevertheless equally manifest, that it is perhaps still more frequently the result of a purely *sympathetic* irritation proceeding from the local *irritation* or *inflammation*, pre-established by the

febrific cause. Besides the source of direct or sympathetic vascular irritation already referred to, there is another one, perhaps still more common and extensive in its influence, viz., engendered, received, or retained, *recrementitious matter* in consequence of accidental glandular torpor or inactivity.

6 ¶ Every agent, whether morbid, febrific, or medicinal, appears to have a tendency or possess a kind of elective affinity in its ulterior operation, to effect particular organs or structure of organization in preference to others. If, then, each organ and structure of the animal system be endowed with its peculiar modification of the vital property or excitability, we may justly presume that some parts of the organization will be insensible, whilst others will be more or less sensible to particular impressions, and, consequently, there will be some parts in which a new excitement will be effected, whilst in other organs and structures no immediate effect will be produced. Thus, we see, when a febrific agent is received into the system, some particular part or function is deranged before the other organ or structure becomes affected. From the part thus primarily irritated, the morbid excitement passes from organ to organ, or tissue to tissue, according to their various sympathetic relations with each other, and with the part primarily affected, until the whole system becomes morbidly excited.

7 ¶ Almost every organ or structure of the system may, without doubt, be the first to suffer functional derangement or irritation from external morbid impressions. The lungs, the liver, the bowels, the brain,

the skin, &c., sometimes receive the *reflected* impressions, and become the primary focus whence the febrile actions emanate, and then proceed, in regular sequence, until the fever is fully developed. It may also be observed that, the organ or structure which sustains the primary irritation, and from which the morbid febrile actions are diffused throughout the system as from a centre, are not perhaps at first in a state of *actual inflammation*, yet, as they are already morbidly irritable and irritated, they will be especially apt to pass into a state of complete inflammation, soon after the febrile reaction is established, and an increased momentum given to the blood. Hence, we may observe that, from the external surface of the mucus membrane, lining the stomach and bowels, and from the variety of morbid causes exciting them, they are often found in a high state of *irritation or inflammation*. Deranged or irritated excitement of an organ or structure, may be adequate to set on foot a train of morbid changes which will ultimately terminate in febrile reaction.



BOTANIC DEPARTMENT.

1 ¶ "WHEN there is a harmonious play of all the solid structures, the equable and harmonious play of all the fluid matters, the healthy response of every surface, of every organ, to its natural, its healthy, and its appropriate stimuli," *or in other words*, "When all the different types and organs of the body are sound, unobstructed, and unwearied, the living principle has free

action through each and every one, according to the degree that it was designed to sustain, the system is said to be in a state of *health*." What then is *disease*, but a departure from health, or an interruption of this play in some way, in any way, in every way, as the cause may be. This *departure*, or *inability*, may consist—

1st. In too much excitement, or excessive action, in a part, or of the whole system.

2nd. In too great and permanent contraction and obstruction of the passages, or organs, of the vital tissues.

3rd. In too great and permanent debility, or relaxation of a function, or structure of the animal economy.

4th. In the dislocation, and sudden, and violent, mechanical, or chemical lesion of some part of the organization.

5th. In paralysis and malformation of the vital structures.

6th. In mortification and destruction of a member of the human frame.

2 ¶ FEVER, then, is "an accumulation of vital action," in a smaller or greater part, for the purpose of removing obstructions from some part, or portions of the animal system. When the fever is confined to a small portion of the body, it is called inflammation; but no pathologist has ever yet marked the precise boundary between local fever and general inflammation. Whenever any febrific agent is received into, or makes an impression on, the system, we see that fever is the effort of the vital power, through the instrumentality of its proper organs, to remove this offending and

obstructing cause. Hence, the physician should learn the state of the system; the nature of the obstruction; the ways and means nature ("the best physician") takes to rid herself of the offending cause; and, if he would be skilful, endeavor to follow her example.

SECTION II.

CAUSES OF FEVER.

§ 1 THE CAUSES of fever are generally divided into *two* varieties, the *predisposing*, and the *exciting*. The former are, all those external and internal causes which tend to lessen the power of vital resistance, to the influence of morbid agents. The latter are, those causes which excite actual disease by the deleterious or irritating impressions which they make on the animal system.

PREDISPOSING. When, either from a general condition of the organization, or some local, functional, or organic defect, the animal economy is especially susceptible of the influence of morbid causes, a *predisposition* to disease is said to exist, and this predisposing condition may be either *natural*, *accidental*, or *hereditary*.

Every animated being possesses an inherent power, of resisting, to a certain extent, the influence of injurious agents, and maintaining his health amidst a multiplicity of causes, which conspire, unceasingly, to his destruction.

“In relation to the degree in which this power of resisting injurious influences, is possessed by different individuals, there exists great diversity, and hence the various degrees of constitutional, or natural, predisposition to fevers, which obtain among different individuals.”

This specific predisposition, or constitutional aptitude to disease, does not depend on vigor, or debility of constitution, but on the peculiar organization of the animal system.

9 ¶ Among the *accidental*, or required predispositions, may be mentioned general or local debility; functional derangement of an important organ, accompanied by an increased excitability of the system; and, more especially we see when the digestive apparatus is deranged, disease suddenly invades the system. Let but this citadel of the animal system languish, and the enemies of human health will speedily attack the outpost, and make an easy conquest of the whole. Besides the foregoing source of predisposition to disease, from causes peculiar to the hot season, or climate, may be mentioned, the high atmospheric temperature; and, we see the robust and healthy are, in general, as much, if not more, subject to the action of febrific poison, than the weak and infirm. By a gradual or protracted exposure to morbid agents, the animal system loses its susceptibility to their impressions, and soon becomes acclimated, or seasoned to the climate, and the power of vital resistance becomes much strengthened.

In relation to the hereditary predisposition, it may be said, the father stamps his impress, or liability to disease, upon his offspring, with as much certainty as

the contour of the countenance, or of the general structure of the mind and body.

10 ¶ **EXCITING.** Among the *exciting* causes, which kindle up, and produce fever, may be mentioned, 1st, *recrementitious* substances, which, in health, are separated and thrown out of the system, but being retained in the circulation, or re-absorbed, become a source of irritation to the sanguiferous system, and therefore, of irritative diseases.

These morbid causes are always secondary, being themselves the consequences of an anterior injurious cause or impression. The most common and extensive of these are, perhaps, retained perspirable matter, bile, and urine. In all extensive classes of febrile affections, which arise from the influence of *cold*, retained perspirable matter, checked perspiration, (or, more correctly speaking, inactivity of the exhalents,) probably acts a principal part in the development of the irritative vascular excitement, and constitutes the initial link, in perhaps, three-fourths of our febrile diseases. A draught of cold water, while the body is in a state of free perspiration, or sudden transition from heat to cold, may, in its ultimate consequences, establish fever.

2nd. *Irritating substances* generated, or received within the body, are often the originators of fever. Worms, dentition, acids, mucus, overloaded stomach, free use of wine, or distilled spirits, received poison, and various other irritating substances, resulting from the fermentative, or putrefactive process, may, and often do, generate fevers.

3rd. Any irritating causes of body or mind, are capable of engendering fever in the human body, par-

ticularly when the frame is *predisposed*, either by peculiarity of temperament, habit, previous disorders, state of mind, and nervous system, or where the condition of the air is most favorable. Among these causes may be mentioned, excessive fatigue, long watching, protracted pain, sudden emotions, or mental perturbations, &c.

11 ¶ 4th. MORBIFIC AGENTS, generated out of the animal body, consisting either of deleterious substances floating in the air, or of the sensible properties of the atmosphere, or finally, mechanical causes, namely—miasmata, noxious gases, heat, cold, electricity, humidity, and mechanical injuries, &c.; all have, and often do, prove a fruitful source of fevers.

As a *febrific* cause, *cold* plays a very important part in the production of disease, particularly when enhanced by being enjoined with *humidity*. Its first effect on the system is, torpor of the cutaneous exhalents, and a retreat of the blood from the surface, to the internal organs, a retention of the recrementitious perspirable matter, and the circulating fluid rendered more irritating, or at least surcharged with offensive substances, proving a source of great irritation to the system. *Heat*, or high atmospheric temperature, more especially *solar heat*, produces the predisposition, while terrestrial exhalations, and cold, call into action the principal diseases of hot climates. Besides, high atmospheric heat very generally produces an increased secretion of bile, by its influence upon the liver, through the medium of the skin, whose functions it is peculiarly adapted to augment.

12 ¶ *MIASMATA*, is a term here used to designate a highly important *class* of febrific agents of a gaseous form, which act on the animal system, through the medium of the atmosphere.

This *class* of agents consists of two *orders*, namely: 1st, *infection*, comprehending those febrific effluvia, which are generated by the decomposition of vegetable and animal matter; and, 2nd, aeriform contagious matter, generated by the animal system in a state of disease: 1st, *marsh miasm*, or, *malaria*, results from the humid decomposition of vegetable and animal substances, contained in the public filth of cities, in marshes, and half drained ravines, and stagnant pools of water, low slash land, and unventilated paludial districts, and foggy places. The margin of marshes, the oozy shores of sluggish streams, have, in all ages, and in all countries, been found the most insalubrious portions of the earth, during hot seasons. A mixture of *fresh* and *salt* water in marshes, appears to enhance the copiousness and virulence of miasmata, to a very obvious degree, and thereby give rise to miasmial diseases, especially putrid and malignant yellow fever. *Heat* and *moisture*, are indispensable to the generation of this aeriform poison, without these, no decomposition can take place, and without decomposition, no deleterious agents can be generated from dead, vegetable, and animal substances.

13 ¶ Whatever may be our views concerning the essential nature of miasmata, observation has made us acquainted with certain of its physical qualities, as well as with its general effects on the human system; and, we certainly know, in a great measure, how to avoid its pestilential and deleterious effects. It consists in par-

ticles of putrid, vegetable, and animal matter, dissolved in aqueous vapor, and possesses a greater specific gravity than atmospheric air. It rises and falls with the aqueous vapor, and in many places acquires a high degree of concentration and power. Hence, persons sleeping in elevated chambers, are much less apt to contract miasmatic diseases, than such as are lodged on the ground floor; and hence, too, the greater salubrity of hills and very elevated parts than the adjoining low grounds. It also may be observed that, currents of air passing over marshes, often convey the poisonous miasmata which arise from them to a very considerable distance, sometimes several miles, in a state of concentration, fully adequate to the production of their usual deleterious effects on the human system. From this circumstance it not unfrequently happens that, those who reside on the leeward margin of marshes, slashes, or dead streams, or even on the hills, where fogs settle, are extremely harrassed by miasmatic diseases; while those who reside on the windward side, remain almost entirely exempt from these affections. It may also be noticed that, *common miasmata* is abundantly precipitated to the surface of the earth, during the night, and more especially, during the first hours after the setting, and shortly before the rising, of the sun, than after the sun is considerably above the horizon. It has also been observed that, a humid air is a much better vehicle for the transportation of particles of miasmatic poison, than a dry one; though nothing is more common than to find miasmatic epidemics to remit immediately after violent storms, or copious floods of rain.

14 ¶ Besides the *common miasm* which is produced from decomposition of vegetable and animal matter, there is another *public or personal miasmal* poison which is generated by the decomposition of the matter of *perspiration*, and the other *excretions* of the animal body. This frequently occurs in confined and crowded hovels of the poor—in crowded jails, ships, hospitals, &c., generally during the cold season of winter, and is chiefly confined to the rooms of the sick; and its poison is the source of *typhus* and *low nervous fevers*, whilst the other kind of miasmal poison, more especially, gives rise to intermittent, remittent, or bilious diseases. I am aware that the combination of the *two* kinds of miasmal poisons will engender a mixed grade of diseases; and that fevers may, and often do, differ in their character in different seasons, climates, and localities, according to the combination of causes or agents which give rise to them. Not only fevers are the offspring of these noxious sedatives, but a long train of morbid complaints, such as bowel complaints, and colics; and nervous diseases are produced, or spring into action by the operation of malaria, and the physical, moral, and mental powers, experience the baneful effects of this insinuating, undermining, and deleterious poison. The period which intervenes between the reception of miasmata, and the first manifestation of its influence on the animal system, is extremely various; some may be immediately affected, others in a few days, and some not until several weeks have passed.

15 ¶ CONTAGION. This is another source or cause of fever. When this deleterious agent is brought, by the animal body, in a state of disease, to act on a

healthy individual, it will produce a disease specifically similar to the one from which it derived its origin.

Contagion manifests itself in *two* ways, 1st, by a morbid imperceptible *effluvium*, passing through the medium of the atmosphere: 2ndly, by a *palpable matter*, or virus, propagated always by actual contact. One of the most remarkable peculiarities of contagious diseases, in their inherent and undeviating tendency, is, to preserve their essential individuality, under whatever circumstances of age, sex, constitution, temperament, modes of living, climate, and the place in which they may occur. Thus, small pox, measles, itch, &c., have not changed their identity since first discovered; and, many other diseases have arisen from contagion, under peculiar circumstances, and combinations of matter, which have entirely disappeared from the earth. Acute contagious diseases destroy the susceptibility of the human body to a subsequent attack; and they observe the utmost regularity in the rise, advancement, and decline; in short, the whole series of essential phenomena, are governed by laws as steadfast as those which regulate the motions of the planets. The chronic contagious diseases are not as regular in their course, having no definite period of duration, nor established order of development.

16 ¶ CONTAGION, does not usually extend far from the place of its origin, except it be perpetuated and conveyed by being absorbed by, and attached to, furniture, bedding, &c., with which it is often transported across the ocean. The atmospheric air has a great tendency to dissipate and render inert the poison of contagious effluvium. Free ventilation and exposure to

currents of fresh air, have a tendency to modify and change the virulence of contagion. The proper neutralizers, or destroyers of these gasiform poisons, are, nitric acid vapors, muriatic acid gas, and chloride of lime, or soda.

Thus I have paid considerable attention to the *causes* of fever and other miasmatic diseases, in order that those who are exposed to these noxious agents may know how to guard against their deleterious influences. It is an old saying, but true, that, one ounce of preventive is worth a pound of cure; therefore, it is generally true that, what will cure a disease, will prevent it. Should we not then use every precaution against the baneful influence of these morbid poisons, and during the time of their prevalence, keep the digestive, cutaneous, respiratory, vascular, and nervous systems, in a harmonious state of good health.

BOTANIC DEPARTMENT.

3 ¶ THE causes of fever may be any thing and every thing, which is capable of deranging and obstructing partial, or universal, vital action for too long a time. Among these causes may be mentioned—

1st. Hereditary taints which are transmitted to us by our parents.

2nd. Noxious and depressing sedatives, or poisons, whether from the animal, vegetable, or mineral kingdom, or a combination of agents from any of those sources.

3rd. Irritating substances engendered in, or received into, the system, which obstruct the free and unusual action of the living principle, through all the organic structures.

4th. Morbific and ærial impressions made on the sensitive parts which prevent the secretory and excretory matter from free elimination, or circulation, through its proper pores or emunctories.

5th. Sudden changes, or violent mental emotions, which unequally distribute the vital fluid through the animal economy.

6th. Chemical or mechanical substances, lesions, or obstructions which irritate, retard, or prevent, an organ or function from its natural, healthy, and accustomed operation.

4 ¶ The causes of fever, then, are many, but they exhibit the same phenomena, are attended with a similar train of symptoms; consequently, the effects produced on the system will be tolerably uniform. This morbid, febrile, or original cause, may have exerted its strength, kindled its fire, produced its uniform changes, and series of symptoms, and then have passed away, leaving its regular and permanent effects to be overcome by the "*vis medicatrix natura*," which, undoubtedly, is the febrile excitement to remove the obstruction and rid itself of the languor, lassitude, and alternate chills, which so constantly precede and cause this febrile reaction; or, if the force of nature is not able of itself to accomplish its work, restore an equilibrium, we should assist her by the "*vis medicatrix medicinale*," or, the medical power of remedies, in order to lessen the excitability, relax the constrictions, equalize the circula-

tion, restore the secretions and excretions, and give regular tone and action to the different structures, functions, and organs of the animal system.

SECTION III.

COURSE, TYPE, AND STAGES OF FEVER.

17 ¶ THE COURSE of fever embraces that series of changes which intervenes between its commencement and its termination in convalescence. For practical purposes we shall divide and treat fevers under the heads of *intermitting*, *remitting*, *eruptive*, and *arthritic*. The series of phenomena which constitute the *course* of a fever, may, for the purpose of better understanding and analyzing, be divided into *six* periods or stages, viz: the *forming*—the *cold*—the *hot*—the *critical*—the *declining*—and, the *convalescing* periods. These stages of fever are not always distinctly marked, especially in violent continued remittent forms, but the primary stage of depression, excitement, and declension, may generally be observed: though fever, in general, may, in one sense, be regarded as a unit, forming one family, affecting many organs or structures, successively, arising from *two* classes of morbid agents, progressing in one series of changes, tending to a general prostration, from the mildest form of intermittent, down to the lowest grade, and most malignant type of inflammatory, congestive, typhus, or, yellow fever.

18 ¶ If this then be the fact, it is that the different shades and grades of fever owe their mildness or malignancy to the peculiar condition of the animal system, and a peculiar combination of febrific agents, in the atmospheric air. *Drs. Smith, and Eberle*, think that, the *pathology* and *essential nature* of fever, are every where the same—that the grade of violence from the simple ague of the temperate latitudes, to the malignant and fatal plague of the east, are owing to the potency of febrific *effluvium*, and the peculiar *local* affections of the system at the onset of the disease. Now, both of these modifying causes are incessantly changing; and, from these changes originate all the apparent dissimilarity in the features of idiopathic febrile diseases. We also observe, that, the leading symptoms are nearly the same; and, experience teaches that, every variety of it should be treated pretty much alike; that is, with the same class of remedies, varying them only to suit the peculiarity of cases, and the grades of diseased manifestations.

19 ¶ 1st. THE FORMING STAGE. This “includes the period which intervenes between the first impressions of the febrific cause, and the actual commencement of the febrile phenomena.” Whenever there is not an harmonious play of all the solids, fluids, surfaces, and structure, and a healthy response of every function and organ, natural or vital, to its accustomed and appropriate stimuli, the system is said to be invaded by disease. Whenever that train of premonitory symptoms, as recorded in the *third* paragraph, make their appearance, we call it fever. The whole series of initial symptoms may be regarded as the result of the struggle between

the vital powers and the febrific cause. If the cause be feeble, and the vital resistance be great, its first impressions may give rise to some unusual or unpleasant sensations, until the system finally triumphs over its influence, and disease be obviated. When the relative powers of the cause, and the vital resistance are more nearly balanced, the struggle between them may be prolonged, until the latter yields, and disease be developed; and, when the system resists feebly, whilst the febrific cause acts with energy, the contest will probably be short, and the fever occur suddenly with violent symptoms." When there is a manifest deviation from the healthy condition of the system, occasioned by fevers, those which are most apt to run through a protracted course, have a much longer train of premonitory symptoms, than such as are violent, and of short duration. Thus the forming period is almost uniformly much more protracted, in typhoid, than in intermittent fevers.

If we examine the symptoms of this stage in the usual order, (*third* paragraph,) in which they occur, we will perceive that, derangement of the nervous and sensorial system, constitutes the initial link in the chain of morbid actions, which occur in the development of fever. This is manifest by the lassitude, languor, and slight transient pains which usher in this stage. Next, the digestive organs are brought into a state of slight suffering; and, finally, the skin, the heart, and arteries, appear to be the last organs which are brought into a morbid state, in the development of fever.

20 ¶ 2nd. THE COLD STAGE. Most fevers commence with more or less rigors or chills. In most

febrile chilliness or shivering, the hands and feet manifest a sensible reduction of heat, and this coldness is usually diffused over the whole body, and the respiration is much disturbed, attended frequently with a dry skin, and cough, confused head, dry tongue, and thirst, pulse small, frequent, and feeble, nausea and vomiting, usually the longer and more violent the sensation of cold, the more vigorous will be the subsequent reaction: as the chills go off, the fever gradually rises, until, in some cases, the system is excessively warm.

21 ¶ 3rd. **THE HOT STAGE.** From this stage, fever derived its name. The augmented heat, dry and hot skin, flushed countenance, throbbing pain in the head, eyes prominent and sensible to the light, urine scanty and high colored, pulse full, quick, and vigorous, or small, tense and frequent are the characteristic indications of this stage of fever. These symptoms, with more or less intensity, continue for a longer or shorter period, until the acme of the febrile condition has arrived: in ague, this period is short; in remitting fever, it is very long.

22 ¶ 4th. **THE CRISIS.** "By *crisis*, is understood that period in the course of a fever at which it has arrived at its highest point, and a determination, either to a fatal or favorable issue takes place, and by which, therefore, the fate of the patient is determined." This is an important period, and is necessarily always short, and is almost universally attended with some *evacuations*, more especially from the skin, forming, what is called, the sweating stage. All fevers have, what is called, a paroxysm, or an obvious aggravation of symp-

toms, which lasts a certain time and then declines, forming an *intermission*, or that period which intervenes between the regular periodical *exacerbation* of fevers. This includes what is called a *revolution* of fever. These *revolutions* are various, in point of duration: some fevers completing these in twenty-four hours, others in forty-eight, whilst others require seventy-two, and some over ninety-six. The form which a fever assumes in this respect, is called its *type*, so that, a fever which occupies twenty-four hours, from the commencement of one paroxysm, to another, is said to be of the *quotidian* type, whilst one which revolves every forty-eight hours, is of the *tertian* type; and, when this period is extended to seventy-two hours, the *quartan* type, and a period of ninety-six, constitutes the *quintian*. These constitute the *four* principal and primary types of fevers, all of which are, however, subject to modifications. In order to understand, fully, the nature of *crisis*, every fever must be considered as having a tendency to some one of the principal types mentioned above.

23 ¶ 5th. THE STAGE OF DECLENSION. This stage commences immediately after the favorable crisis has taken place. In general, the period of declension will be pretty nearly in proportion to the progress of the fever to its acme. It is a law of the animal economy, whether in a state of health or disease, that the system manifests certain periodical fluctuations, or, revolutions, and that its inherent tendency, every septenary day, or period, is to rid itself of any morbid materials, which disturb the regular action or harmony of the animal economy. Hence, agues of the *quotidan*

type, will make this effort of termination every seventh, fourteenth, or twenty-first paroxysm. From the same inherent tendency, the relapses which are so common in this disease, will, in a vast majority of instances, occur about the eighth, fifteenth, or twenty-second day. Nearly all of what are called *continued* fevers, are made up of tertian paroxysms prolonged, and running into each other, and thus continuing with a tendency to terminate or form a crisis at septenary periods, viz: every seventh, fourteenth, or twenty-first days. Fevers not only have their septenary movements, critical days, &c., but they have their critical *evacuations*, which usually accompany the crisis of fevers. Among these discharges may be mentioned, bleedings—a flow of sweat—an increased or changed character of urine, and diarrhœa. The human system, like every other locomotive, has its valves and safety valves, its inlets and its outlets, its reservoirs and flood gates—when, therefore, the steam gets too high, or the fever excites too much, some one or more of these organs, or safety valves, relieve the engorged part, and thus saves the system from farther pressure. When these discharges are attended with a universal glow over the system, or abatement of the febrile symptoms, we may look for a favorable termination of the disease.

24 ¶ 6th. THE STAGE OF CONVALESCENCE. This includes that space from the departure of a disease to the recovery of strength lost by it. It is generally slow in those cases where the local determinations were strong, especially where the patient remains exposed to the same noxious sedative, or febrific agent, which originally excited the disease: and, I am led, by daily

observation, to believe that, most of these cases of slow recovery, owe that state to the abuse of the remedies used during their illness; on the one hand we scarcely see a patient rise from the bed of fever, who has not been saturated or disorganized by the abuse of *calomel*; whilst, on the other hand, we behold local inflammations and chronic diseases, kindled into action by the abuse of hot stimulating remedies, used in the exciting stage of fever. Hence, I am led to believe, from these two sources, that many, very many, are lingering under slow and tedious convalescence.

BOTANIC DEPARTMENT.

5 ¶ It is generally admitted, by the learned, that, the *pathology* and *essential* nature of fevers are the same. This point is argued, and abundantly sustained, from the fact that, all regular medical authors agree in symptoms, indications, and treatment. Those who treat fever with the lancet, calomel, diaphoretic, revulsive, and tonic plan, are as regular and uniform in their course, as those who use relaxents, the bath, lobelia, emetics, and stimulants. Each party regarding the *identity* and *essentiality* of fevers; and, it is also admitted that, the types, shades, and grades, may differ in some characters, from each other, according to the capability of vital resistance, in one or more organs, at the time when the mildest or most malignant exciting agent produced the disease.

6 ¶ Fevers, then, are of one family, a unit, but one, viz.; the natural motive power of the system, "accumulated vital action." The simplest classification of fevers then, that will enable us to set forth and arrange the types, characters, symptoms, and forms, for the purpose of clinical practice, surely will contribute to the greatest perfection in the application of remedies. Most medical writers make too many varieties—use too many technical phrases—and render the science too complicated to suit the common reader. Nature's laws, remedies, and applications, are all simple and easy to be understood.

SECTION IV.

GENERAL DIAGNOSIS.

25 ¶ THIS includes that science which delivers the signs by which a disease may be distinguished from another complaint. Nothing, perhaps, so much distinguishes the experience and skill of one physician from another, as the ability to estimate, correctly, the import of symptoms; to trace their various relations with each other, and to determine from them the seat, nature, and extent of maladies. "It is not alone from morbid symptoms that the intimate character and tendency of disease can always be satisfactorily determined. Age, sex, moral and physical temperament, climate, occupation, habit of living, previous diseases, hereditary predisposition, and the character of the predisposing, and

exciting causes, often afford important aid in the formation of a correct diagnosis. In chronic diseases, especially, the light which may be obtained from circumstances of this kind, is frequently of the utmost importance in this respect." The clinical physician should remember that, modesty, deliberation, and calmness, should always characterize his conduct at the bed-side: and, in examining his patient, he should observe method, regularity, and minuteness. The questions should always be asked in terms perfectly intelligible to the patient. The employment of a pompous and technical phraseology, is more apt to excite the contempt, and distrust of intelligent patients, than to draw forth correct and satisfactory answers.

26 ¶ The interrogatories should be sufficiently numerous and varied, to obtain a full view of the symptoms, feelings, and condition of the patient; his age, occupation, place of residence, what time the disease commenced, whether it came on gradually or suddenly. attended with exacerbations and remissions. You should also enquire whether he feels any pain, whether it is acute or darting, dull or aching, burning or throbbing, deep seated or superficial, wandering or fixed, continued or intermittent. You must notice his countenance, attitude and motions, the color and condition of the skin and tongue, the various regions of the body, the nature of his pulse, determine the condition of the alimentary canal, the respiratory organs, the irritability of the system, the quietness of his sleep, the strength of his appetite, the temper of his mind; in short, the whole structure, functions, and organs, whether of body or mind, should pass under your notice: questions

should be put to the attendant nurse and patient, in relation to the state of the patient during your absence. It is from all these sources that you are to make up a judgment, and determine the treatment, in each particular case, which is to tell, for weal or woe, the destiny of the patient. A careless, hurried, fretful, manner of examining, seldom fails to lessen the good will and confidence of the patient for his medical attendant, whilst mild deliberation, and interested deportment, not only gains the confidence and respect, but contributes, very materially, to a full development and correct understanding of the nature of the malady.

BOTANIC DEPARTMENT.

7 ¶ SYMPTOMS spell diseases, as letters spell words. In order to distinguish diseases, we must understand symptoms, and comprehend *effects*, for we have more to do with *effects*, than *causes*, in the treatment of diseases. What then are the principal *indications* of cure? They are—

To equalize the circulation and vital action.

To relax spasm or constricted organs.

To promote free secretion and excretion.

To contract and strengthen relaxed and debilitated parts.

To remove obstructions and stimulate sluggish organs.

To furnish the system with the means by which it recovers its strength, on equal and universal action, and builds up its wastes.

8 ¶ Whatever be the diseased condition or its cause, all our therapeutics or treatment, must be conducted on these principles, all the fluids of the system are moved through it by the alternate contractions and relaxations of the vessels from which they are sent, and in which they are transmitted; thus the blood is thrown by these actions of the heart and arteries, and returned by the same movements of the veins; the chyle is absorbed, or elaborated, and carried to the circulation, and the lymph is taken up and united with it, by the alternate contractions and relaxations of the fibres which compose the coats of the tubes through which they pass. All the voluntary and involuntary motions of the body are performed by the alternate contractions and relaxations of fibres, and the food is masticated, swallowed, and moved through the system by the same process." We are, then, obliged to conform to the laws of vitality. We cannot make new functions or organs, nor put new properties in remedies. It is more than some do, to learn the ways and means, which the system takes to rid herself of disease, and furnish her with remedies for that purpose. *To relax, to contract, to stimulate, and to furnish* the system with proper materials for nutrition, constitute the whole *modus operandi* of the medical art.

SECTION V.

PROGNOSIS.

27 ¶ THIS signifies the foretelling the event or termination of diseases, from the particular signs or symptoms manifested. 1st. There is, in the first place, a *general prognosis*, founded on an extensive view of diseases, which enables us to give an opinion regarding the probable course, duration, and termination of particular cases, without any minute attention to symptoms. Thus, we can confidently predict, that, a catarrh will end favorably—that a case of acute rheumatism, will prove tedious—a case of croup, hazardous—of consumption, nearly hopeless. It is nevertheless true, we occasionally meet with peculiar constitutional organizations of the vital system, which are exceptions to general laws. Thus, the prick of a needle, will, in one individual, cause great pain and constitutional irritation—in another, faintness—in a third, convulsions—in a fourth, scarcely any perceptible consequences at all. It is impossible to lay down, with strict accuracy, the rules of prognosis. This part of our duty can be but imperfectly taught in books.

28 ¶ To be able to draw legitimate conclusions, therefore, with reference to favorable or unfavorable terminations of disease, it is necessary to be well acquainted with the usual train of symptoms, and the causes upon which each depends. The age and habits of the patient—the circumstances in which he is placed;

the period of time which has elapsed before medical treatment is resorted to, and the possibility of employing medicines effectually, have a most important influence over the causes and probable issue of the case. The general prognosis of remittent fever, is certainly favorable. The average mortality, in the hospitals of this country, appears to be in the ratio of about one to twelve. When, in remittent fevers, there is excessive inflammatory excitement, topical congestion, great depression, dry, hot skin, red and turgid face, throbbing, quick, full, or hard pulse—there is certainly great danger. When, on the contrary, there is an abatement of these symptoms, the pulse becoming softer and slower, the skin moist, soft, and cool, the urine depositing a brick colored sediment, we may anticipate a favorable termination. There is a prognosis applicable only to individual cases, and classes of diseases, which will be spoken of in its appropriate place.

BOTANIC DEPARTMENT.

9 ¶ “ALL experience has proved, that warmth and moisture relax all animal fibre; that, dry heat or dry cold, contracts it, and that some medicines do one, and some the other: that certain articles and processes stimulate the organs to high action, and that nutritious food aids them in building up the wastes, and restoring the injuries.”

For this purpose there are three classes of means, or agents, which will effect this object.

1st. RELAXENTS. The *warm* or *vapor* bath, is certainly a great and speedy relaxent to the animal fibre; and, in excessive and permanent constrictions of parts, organs, or surfaces, as in local and general fevers, cramps, spasms, &c., it is highly recommended. Besides this, it is found that, certain articles of the *materia medica*, act through the nervous system in such a manner, as to produce the same relaxations of the tissues, as that of warmth and moisture. These are termed, *anti-spasmodics*, or, *relaxents*.

10 ¶ LOBELIA INFLATA, is a prominent and powerful relaxent. This power being evanescent, and without injury to the living fibre, its most valuable services are rendered, in the production of vomiting, the relaxation of spasm, constricted sinews, morbid surfaces, &c. Warm decoctions of boneset, spearmint, catnip, sage, peppermint, pennyroyal, dittany, balm, and motherwort, possess considerable relaxent powers. The use of the bath and lobelia, in combination with some other relaxents, will constitute permanent agents, in the removing of obstruction, lessening accumulated vital action, sustaining an equilibrium, producing and sustaining a gentle perspiration on the surfaces.

11 ¶ CONTRACTANTS. The continued application of dry heat to the body, evaporates its moisture, and permits the tissues to contract for the want of that moisture, and it also stimulates the surface to an effort to retract from the uncomfortable action of the heat itself. Thus, the pores are closed, and the circulation and perspiration are impeded. The same result may also be produced, by the action of certain medicines on

the nervous system, called, *astringents*, or *contractants*; these contain large portions of *tannin*, as the bark of oak, birch, alder, hemlock, sumach, &c.

12 ¶ **STIMULANTS.** All articles that tend, in any degree, to excite vital action, are properly called *stimulants*. The pure stimulants produce alternate relaxation and contraction, in rapid succession, the general tendency of which is, neither too permanent debility, nor tonicity, but to a natural action, which may, or may not be raised above the healthy standard. Cayenne, is, perhaps, the purest and most powerful stimulant known. Ginger, prickly ash bark, snakeroot, &c., are of the same class. The above three classes of remedies, with their various combinations, together with proper food and drink, comprise all the principles, of all the remedies we want, for any form of disease, as they tend to produce contraction, relaxation, or stimulation of the living fibre, or the solution, attenuation, neutralization, &c., of the affinitive agents, in such a manner as to facilitate their removal. They may be variously compounded, so as to answer various ends. I have not mentioned all belonging to these classes, neither do I wish to be understood as saying that, physicians have not made more classes. No two articles operate upon an organ exactly alike; therefore, upon this principle, they might have classed them almost *ad infinitum*.

13 ¶ **TONICS.** By this is meant, those articles which directly increase the tension of the tissues, and are mostly confined to bitters and astringents. Any medicine that tends to excite a healthy action, gives tone, activity, and power to the system, and which

removes morbid agents from the system, may be called *tonics*, though they owe that power to the stimulation they possess. They contain the *bitter principle*, which may be compounded with other articles, giving rise to important remedies in the cure of diseases. This bitter principle may be combined with *tannin*, forming *canker medicine*: they may also be combined with relaxents, in such a manner as to be neither relaxing nor constipating, and united with a little cayenne, cloves, and sugar, constituting what are called, *spice bitters*. For a more extended view of these agents and combinations, and also for what is called, *a course of medicine*, the reader is referred to the botanic department, as arranged in this book.

CHAPTER II.—SECTION I.

INTERMITTING, OR, AGUE AND FEVER.

29 ¶ INTERMITTING FEVERS occur in every age, clime, and season, though summer and autumn are the seasons most common for agues and fevers. When they arise in the spring, they are called *vernal*; and, when in the autumn, they are known by the name of *autumnal*.

It is divided into three general, or primary, types, and several varieties; and is known according to the distance of time observed between its paroxysms, or periods of return. When it comes on within the space of twenty-four hours, it is called a *quotidian*; when

the attacks return every other day, or within the space of forty-eight hours, it is called a *tertian*; and, when the fits or paroxysms return every third day, or within the period of seventy-two hours, it is named a *quartan*. The fits or paroxysms of an intermittent fever, consists of three distinct periods or stages, all of which are distinguished by a series of peculiar phenomena; each succeeding period being the immediate consequence of the one which preceded it.

The symptoms which characterize the forming stage of an intermittent paroxysm, do not differ from those which usually precede the development of other forms of fever.

30 ¶ SYMPTOMS. A sense of great languor, yawning, stretching, weariness, soreness, wandering pains in the system, aching pains in the loins, hips, and extremities, constitute the first manifestations of the approach of ague and fever.

COLD STAGE. After the foregoing symptoms have continued for an indefinite time, the patient begins to experience slight and transient sensations of cold along the back; the lips and nails look blue; the skin becomes pale, contracted, and rough; the breathing anxious and oppressed; the patient restless; mind weak and irritable; thirst urgent; pulse small, frequent, and firm; the tremors or rigors now become universal; and, in some instances, complete stupor or insensibility takes place: this stage is various, ranging generally from a few minutes to four or five hours.

HOT STAGE. "Sooner or later the chills begin to abate, transient flushes of heat pass over the face and body; the chilliness now recedes rapidly, and the heat

encroaches until it has obtained an entire ascendancy.” The skin is hot and dry; the thirst great; more or less nausea and vomiting; breathing hurried; great pain in the forehead, back, and extremities; pulse full, hard, and frequent; great confusion of thought, and sometimes delirium; this stage continues generally much longer than the cold one.

SWEATING STAGE. A moisture at length breaks out on the face and neck, which gradually extends over the whole body, and the febrile symptoms then rapidly diminish; the breathing becomes free and natural; the pulse sinks to its natural standard; the heat of the skin, headache, and thirst, abate; the feeling of weakness goes off; the appetite returns, and the secretions are restored to their healthy condition. The average of this stage is about six or eight hours.

31 ¶ REMARKS. After a certain interval or intermission, the same train of symptoms is renewed, to run through another revolution. An intermittent may be regarded as the elementary type, or epitome of a fever, exhibiting, in the course of eight hours, all the stages of fever; its rise, progress, crisis, and termination, in the recovery of health. It is here worthy of remark, that, all fevers are more or less liable to run into each other, and for the type to change; thus, a quotidian may run into a tertian—a tertian into a quartan—a quartan into a simple remittent—a simple remittent into inflammatory, congestive, typhus, and malignant yellow fever. So, also, has it happened, in the same locality—at the same time—the same season—different individuals have been the subjects of all the diversities of forms, shades, and grades, according to the influences of external

causes, and the susceptibilities and impressibilities of individual subjects. When, under certain circumstances, the febrile symptoms of an intermittent, instead of ceasing, entirely, in the interval between the paroxysms, abate only to a greater or less degree, we call it the remittent type of fever. Between the simple remittent and intermittent fevers, there exists no essential or radical difference—they are produced by the same causes, and differ from each other only in the grade of violence, and duration of the paroxysm—the treatment is conducted upon similar principles.

32 ¶ CAUSES. The common causes of intermittent fever are, marsh miasmata, or malaria, arising from the exhalations of marshy grounds; and, I am of the opinion that, febrific miasm may arise from almost any soil, particularly if there is a sufficient degree of heat and moisture, with putrescent vegetable matter. It is true that agues prevail extensively in certain districts where there are no marshes, but it will always be found that, there is something equivalent to a marsh. There is either a subsoil of such a nature as does not allow water to pass easily through it, or there is an extent of wood, impeding thorough ventilation, and the action of the sun's rays. Notwithstanding peculiarities of soil are the most frequent causes of fever, yet, various other causes may, under favorable circumstances, give rise to these forms of fever. Intestinal irritation from worms, suppressed discharges, drying up of old ulcers, &c., are occasional causes of intermittent fever. A very short exposure to the exhalations of a marsh, or this febrific agent, is sufficient to affect the system, or give rise to fever. Persons who have been exposed to miasm should

carefully avoid every thing capable of deranging or debilitating the system, and particularly the digestive organs, for at least two weeks after exposure. The last circumstance which deserves notice, in an enumeration of the causes of ague, is habit, or the tendency which previous attacks give, to a recurrence of the complaint. In this circumstance, intermittent fevers differ from remittent, where one attack lessens the liability to a second; but, so powerful is its effects in ague, that very slight causes are sufficient to renew the paroxysm, when long habit has left a predisposition in the system. Why it is that this miasmatic poison gives a tendency to *periodicity, septenary movements, exacerbations, and remissions*, the medical world may at once confess their entire ignorance.

33 ¶ PROGNOSIS. No general prognosis, in intermittent fever, can be given, which is not qualified by reference to the climate in which the disease appears. In this country, and in Holland, ague is not a disease of danger: but, in Siera Leone, it is scarcely excelled in malignity, by any known disorder: it is also influenced by season, previous duration, local congestions, &c. In general, much less danger is to be apprehended from this disease in the young, robust, and vigorous, than in persons of feeble, nervous, and depraved habits of body. An ague which has been present a considerable time, has so far riveted itself in the constitution, that its removal becomes tedious and difficult: relapses, under such circumstances, are frequent, and tend materially to injure the constitution. The most danger is, during the cold stage, which tends, in some instances, to bring on

apoplexy, especially in broken down, depraved, or intemperate constitutions.

34 ¶ SEQUELA. The most common morbid consequences of agues, are, swelling of the feet and legs, enlargement and indurations of the liver and spleen, jaundice, dropsy, &c., general broken down state of the constitution. Old persons do not usually recover from a shock of ague for some time: there are traces of its progress left upon the mental and physical system, which nothing but a generous diet, warm clothing, moderate exercise, and a change from its morbid excitement, will so soon remove.

35 ¶ TREATMENT. The treatment of an intermitting fever, resolves itself into those means which may be employed during a paroxysm, to arrest its progress, or to mitigate its violence, and those which may prevent any return, and effect a permanent cure. This forms, of course, the more important part of the plan; but, it is sometimes necessary to palliate urgent symptoms. In the ordinary regular agues of temperate latitudes, remediate interference, during the paroxysm, is generally unnecessary, or but little needed. The natural sequence of appearance, is a state of concentration, followed by one of exposure or reaction, and this again followed by a stage of relaxation or sweating. As then the subsequent stage is modified, by that of its predecessor, it is of course important to diminish the duration of each stage, as far as is practicable, and this too, in order that you may have more time to effect a radical cure.

36 ¶ **PALLIATIVES.** 1st. During the cold stage, various means have been adopted, for the purpose of curtailing and hastening this stage. The patient ought to be kept moderately warm, and, as the thirst is very urgent, warm diluent drinks should be fully allowed; and, in feeble, nervous, and exhausted patients, of not sufficient vital energy to develop the hot stage, without artificial support, we may aid the vital powers, both by external and internal exciting agents, more especially by the application of external heat.—A bladder half filled with hot water, to the region of the stomach, and hot applications to the soles of the feet. A superficial observer, looking at the patient in the cold stage, and seeing the face and surface of the body pale and cold, the pulse feeble, and quick, the teeth chattering, the whole body shivering, and the suffering patient huddling himself up in all the clothes he can find, to keep the spark of life from being extinguished, would be led to suppose that heating remedies ought to be taken to keep up the sinking debility; but the facts abundantly show that, it consists in a recession of the vital activity, from the circumference towards the centre, that there is not one equilibrium in the circulation; and, consequently, the internal organs are in a high state of congestion or engorgement.

2nd. When the state of concentration, or cold stage, is giving way to the expansive, or hot stage, it becomes necessary to moderate the violence of febrile excitement, especially where delirium or alarming local determinations take place. The clothing of the patient should be light, free ventilation be admitted, cool, bland, and acidulated drinks will be both grateful and salutary. It may also be proper, in many instances of high general

febrile excitement, to exhibit some of the cooling, sweating remedies, such as the saline effervescing mixture or soda powders. If the head is very painful and hot, cold water should be freely and promptly poured upon it.

3rd. When the sweating stage has succeeded to the hot, it is usually sufficient to add somewhat to the clothing, and give warm, mucilaginous drinks, and freely *dry rub* the patient. The sweating stage is a sequent of the hot stage, as the latter is of the cold stage; therefore, as a good rule to be observed throughout the paroxysm, is to use hot drinks during the cold stage, cold drinks during the hot stage, and warm drinks during the sweating stage.

If the stomach is extremely irritable, giving rise to frequent and violent vomiting, in the cold or hot stage, warm diluents should be given until there is reason to think that the bile is discharged, and then soda powders with paregoric, or Bateman's drops, will generally put a speedy stop to this state of excitability. Such is the general plan of treatment, to be adopted during the paroxysm of an intermittent, when of the simple kind. If any extraordinary symptoms should occur, they must be met according to the peculiar indications manifested.

37 ¶ CURATIVE. Whatever advantage may result from remediate treatment during the paroxysm, universal experience concurs in regarding the intermission as the proper period for the safe and certain radical treatment of agues and fevers, as well as all other periodical diseases.

1st. In nearly all original cases, it will be advisable, if there is a furred tongue, nausea, and vomiting,

loss of appetite, pain in the stomach and bowels, bitter or depraved taste, to administer an emetic, or a gentle cathartic, with a view of removing the morbid secretions, and preparing the way for the action of quinine upon the nerves of the living membrane of the stomach. Twenty grains of ipecac, or a full dose of rhubarb, salts, or castor oil, will generally be sufficient.

2nd. From twelve to twenty grains of the *sulphate of quinine*, may be mixed in four or five ounces of water; one-fourth to be taken four or five hours before the expected chill; and one-fourth hourly, after the first dose, until all be taken. This will generally be sufficient to arrest the paroxysm:—if it should not, repeat it before the next chill, or, until you completely arrest it. It is well known, as stated before, that intermittents have their septenary or seventh day movements, and cases are more liable to relapse, at those periods, than all other diseases belonging to the category of human maladies; therefore, to guard against relapses, and complete a permanent cure, it will be best to take three or four grains of quinine, every sixth, seventh, or eighth day, for several weeks, or, until the system entirely recovers from the shock occasioned by the disease.

3rd. The virtues of *quinine* may be much enhanced by the addition of a few drops of *elixir of vitriol*, and when there is a disposition for the quinine to pass off by the bowels, it is best to combine it with Bateman's drops, opium, or morphine. The peruvian bark, it is well known, forms the basis of quinine, and several other preparations, but they are not as cheap, convenient and efficacious as quinine.

4th. The state of the stomach sometimes forbids the use of quinine by the mouth; in that case it may be

used endermically. From twenty to twenty-five grains of the quinine may be sprinkled on a denuded surface, or applied to the region of the stomach, in the form of an ointment or plaster, on a blistered part, and constantly worn, until the paroxysm entirely disappears; or, it may be mixed with thin starch, and injected into the bowels a short time before the expected paroxysm.

38 ¶ 5th. Besides *bark* and its various *preparations*, a vast variety of other remedies, drawn from the animal and vegetable kingdoms, have been employed with occasional success in the treatment of intermittents; as nearly all of them are, however, confessedly inferior to bark and its preparations, it will be sufficient here, barely to mention them, as Rowand's tonic mixture, Sappington's pills, and all other celebrated nostrums which have flourished from year to year, for the cure of ague and fever, owe their specific properties to the quinine they contain. The most efficacious of these common articles are, the following, viz.: the bark of the *dogwood*, more especially the *swamp dogwood*—different species of *willow* and oaks, horse chestnut, American tulip poplar, Virginia snakeroot, and the cold infusion of the inner bark of the common wild cherry, possess highly important febrifuge properties. Besides these antiperiodic remedies, may be mentioned *piperine*, obtained from the black and long pepper, spider's web, from the black or cellar spider, and the infusion of *boneset*. As the five senses are avenues of disease, so, through them we can exert a powerful and controlling influence, in the restoration of health. There exists a strong and intimate relation between the physical and moral elements of our nature; and there are few, if any,

diseases in which we may not derive important advantages, from calling to our aid the invigorating and all inspiring powers of hope, and thereby dissipating the mind from the distressing emanations of sorrow and fear, and diverting the attention from the cause, phenomena, and probable consequences of the disease, to objects of more pleasing and hope inspiring character. Thus, any strong mental emotion, occurring shortly before the usual period of the paroxysm, will sometimes be sufficient to prevent its accession. In most cases of intermittents, before attempting to arrest the paroxysm, by antiperiodics, or febrifuge remedies, it is important to remove any local congestion or concentration of vital activity towards internal organs; otherwise, the most energetic agents will generally fail in their effects to produce a radical cure. If the liver or spleen becomes enlarged, the quinine, blue mass, or iodine, will generally remove this enlargement. Sometimes intermittents become highly inflammatory: in those cases it should generally be subdued before the exhibition of quinine; at other times they assume a *congestive and malignant* character: in those cases it will seldom be proper to lose much time in preparing the system for *febrifuge tonics*. In all such cases the powers of the system must be economised, and tonics early, promptly, and liberally resorted to. As relapses are very apt to occur in aguish districts, the patient should avoid every thing which is calculated to derange the digestive organs, and keep himself from the night air, and easterly winds—wear flannel—use light and nutritious diet; and, if practicable, for the time being, remove to a more high, agreeable, and healthy situation.

BOTANIC DEPARTMENT.

14 ¶ THE principal *indications* of cure, in agues and fevers are, 1st, to aid the efforts of the system, in removing the obstructions: 2nd, to tone it up and prevent relapses.

TREATMENT. An hour or more before the expected chill, give a mixture of composition and cayenne,—together with some of the canker teas. Just before the chill, administer the vapor bath; let it be moderately warm at first, and increase the temperature as it becomes pleasant to the patient. When in the bath, let him be thoroughly steamed, till the perspiration becomes free and warm, and then be washed all over with soap and warm water—wiped dry—dressed, or put in bed, and actively vomited. After he is rested, let him have a stimulating injection; and, if the bowels are not moved, give him the infusion of boneset, after which, the tonic bitters, consisting of dogwood bark, pricklyash bark, cayenne, and gum myrrh, &c. Five or six hours before the time for the next chill, give half a teaspoonful of equal parts of cayenne and quinine, repeated every hour for three or four times. The bath and emetic will seldom ever have to be repeated; but the tonic bitters should be continued; and once or twice a week the cayenne and quinine should be given, to prevent the recurrence of relapses, which are so frequent, until perfect health be restored.

SECTION II.

REMITTENT FEVER.

39 ¶ AGREEABLE to my plan of arrangement, I next proceed to treat of remittent fevers. All fevers intermit or remit. If we will carefully notice the cases that are classed under continued fever, we can scarcely fail to observe that, in some part of the day, the febrile symptoms are more severe than in others—that they have their exacerbations and remissions, “one series of increase and decrease, with a tendency to exacerbation and remission, for the most part appearing once or twice every twenty-four hours.”—(*Good.*) Old custom has sanctioned a continued type, which division, nature does not tolerate—her laws in the development and phenomena of fevers, do not warrant such a division, as it leads to incorrect views, and to an improper course of treatment. I believe it would be better, for all practical ends, to consider all *primary* fevers as a unit—forming one family—possessing the same identity—differing only in periodicity, duration, and intensity—and, demanding treatment only according to the severity of the disease, and the peculiar local derangement manifested in each particular case. This view is now beginning to be sanctioned by the profession, (*prof. Mitchell;*) and, especially, since the treatment of patients in the Florida war. Much has been written on the pathology of fevers, but at last we know very little that is of practical importance, save the naked facts of *periodicity—intermittent and*

remittent character. The successful treatments have overturned our speculations and theories, about the technical divisions and sub-divisions of febrile complaints.

The great *heroic* samson, quinine, has done much to open our eyes, and show the unity of fevers, and dissipate the dread of a five or six weeks typhus fever. For the sake of showing the varied types, shades, and grades of fever, and the different *indications* of cure, I shall treat of *remittent* fevers under the following heads, viz: 1st. The SIMPLE.—2nd. INFLAMMATORY.—3rd. CONGESTIVE.—4th. TYPHUS.—5th. HECTIC.—6th. MILK.—7th. YELLOW.

40 ¶ 1st. SIMPLE REMITTENT. Remittent fevers, in different countries, assume different aspects, though essentially the same disease. It is extremely common, over the whole of the United States, and prevails everywhere in marshy districts, to a greater or less extent, and in some malarial parts, where the atmospheric temperature is elevated, often epidemically. Between the simple autumnal *remittent* and *intermittent* fever, there exists no essential or radical difference; the only peculiarity seems to be in the grade of violence and duration of the paroxysm. The ordinary remittents of this latitude often terminate in intermitting fever, before the final disappearance of the disease; and, it is not uncommon for the milder varieties to assume the *intermittent* form at an earlier period of their course.

Remittents, although mild and regular in their commencement, may assume an aggravated and dangerous character, if they continue long; owing, no doubt, to the condition of the atmosphere at the onset of disease;

and, by the habits and conduct of the individuals who suffer from the disorder, as well as by the impressibilities of constitution; but more especially by peculiarities in the locality, and the virulence of the exciting agent.

41 ¶ SYMPTOMS. The primary symptoms of remittents are analagous to those of intermittents; they differ so little indeed from them as not to require re-enumeration. The rigors are rarely, however, so great; and, sometimes the sense of chilliness is wholly, or almost entirely wanting; at times, vague chills, or a sensation as of cold water trickling down the back—at first, they alternate with flushes of heat, until, ultimately, the fever is completely established. The pulse is full, frequent, and not hard; the skin dry and hot; aching pains in the back, head, and extremities; eyes yellowish; tongue covered with a brownish fur; nausea and bilious vomiting occur; a sense of powerful weight and tension in the region of the stomach; respiration is more or less oppressed and hurried; and the urine is scanty and deeply tinged with bile.

This febrile condition continues for a longer or shorter period, generally a few hours, when a gentle perspiration appears on the upper portions of the body, and sometimes it is general. The symptoms now yield, but still only to a certain extent. It is a *remission*, not an *intermission*. This remission continues generally from one to two hours, and then “the febrile excitement rises again with more or less celerity, until it acquires its former violence, or, perhaps, excites it; which, after a certain period, again abates and gives place to another *remission*. In this way the fever

proceeds, undergoing regular revolutions of exacerbations and remissions, until it either finally terminates in a perfect crisis and convalescence, or assumes a more uniform or continued course." Remittents, in their general character, are more changeable than any other fever; sometimes they are mild, at other times they are very malignant; sometimes their course is long and tedious, at other times they have been known to terminate in their third paroxysm. In general, two important organs, the *liver* and the *alimentary canal*, are the parts most apt to become prominently affected in fevers of this kind. Hence, two distinct modifications of the disease occur; one where the bowels seem to be prominently affected, and the other stamps its impress upon the liver.

42 ¶ CAUSES. Remittents arise from the same malarious sources that give rise to intermittents. It is clear, however, that the terrestrial emanations also give rise to it, inasmuch as we observe it very commonly in localities where intermittents are wholly unknown. Worms, and other irritating substances, lodged in the bowels, may give rise to a regular remittent form of fever. The disease known under the term of "*infantile remittent*," appears to rise from intestinal irritation. "Whatever may be the remote cause, it seems very evident that, the principal morbid irritation is always located in the abdominal organs; and more especially on the liver and mucous membrane lining the bowels."

43 ¶ PROGNOSIS. The prognosis in simple remittents is generally favorable, but in the malignant form it is certainly much more unfavorable, as they are most

apt to be connected with great local derangements in the brain, but more especially in the bowels and liver. If the disease persists beyond the fifth or sixth paroxysm, great prostration supervenes. The remissions become less and less distinct; tongue dark brown, or black; stools reddish and watery, or black, bloody, or coliquative; great tenderness of the abdominal region; cold, clammy sweat, and delirium coming on, you may look for a speedy dissolution.

44 ¶ TREATMENT. The principal *indications* to be fulfilled in the treatment of remitting fever are, 1st, to moderate the febrile reaction of the arterial system: 2nd, to remove, out of the alimentary canal, the vitiated and irritating secretions which may be lodged in it; and, 3rd, to obviate local determinations, prevent the paroxysm, and restore the healthy functions of the liver and bowels.

1st. Where the onset is violent, and particularly when the patient is plethoric, or of a vigorous habit, bleeding should be early, instantly, and freely attended to; for, without it, from the urgency of the symptoms, there can be little doubt but that some large organ or other, will soon become locally affected with congestion: if the patient is spare, and the attack mild, this ought to be dispensed with, and most generally, in this latitude, it will not be required, and in most cases it would be highly dangerous: when, however, it becomes expedient, it must be attended to at the very onset of the disease.

2nd. Mild emetics, or cathartics, ought to be early used, to remove the morbid matter from the stomach and bowels, and it will be occasionally necessary to

repeat the mild evacuants, throughout the whole course of the disease. From twenty to twenty-five grains of ipecac will answer exceedingly well for an emetic. For the purpose of evacuating the bowels, castor oil, salts, or rhubarb and magnesia, will form suitable cathartics for this purpose: copious bleedings, active and irritating purges have had their day, and are laid aside for a more consistent and efficacious plan.

Mild injections, early in the stage of the disease, will evacuate the lower part of the intestinal tube, and likewise solicits the peristaltic action downwards, so as to evacuate the whole canal.

45 ¶ 3rd. The sedative, and more especially the whole of the refrigerant plan, should be the main stay, or sheet anchor, in these febrile maladies. Ice water, ice, cold soda powders should be freely used when the skin is hot and dry, and very sparingly or not at all when the surface is moist. When the patient is steadily hot and dry, the extremities should be frequently sponged with cold or tepid water, and if the head is very painful and hot, it should be held over the edge of the bed, and two or three buckets of cold water poured suddenly upon it, and then wiped dry:—he should be kept in bed, and the air freely admitted; and if there is irritability of the stomach, or tenderness in that region, counter irritants, mustard poultices applied to the stomach, legs, and feet, will be of considerable service. Sweating remedies also, in order to restore an equilibrium, and keep up an action on the skin, will prove highly useful.

4th. Early as possible, during the remission, large and repeated doses of the salt of quinine should be

given, in order to arrest the recurrence of the paroxysm, and cut short the disease at once. No time should be lost in preparing the system for the reception of quinine. "Life," says a modern writer on the remittents of India, (*Twining*,) "often depends on the management of a single paroxysm, by the judicious employment of the *lancet*—a *purge*, and two or three large doses of the sulphate of quinine." Other distinguished physicians say, after the operation of a purgative, they have given quinine during the intermission, three doses of from fifteen to twenty grains each, with an interval of an hour between, with perfect success. In malignant and rapid cases, we should seize upon the first remission to give the antiperiodic.

5th. If local congestions or engorgements should occur, during the course of the disease, cupping, blistering or counter irritants, should be resorted to. Tranquillity, both of body and mind, should be strictly enjoined, and no more light or noise should be permitted than is absolutely necessary—slippery elm, lemonade, barley water, arrow root, sago, &c., should be freely used by the patient.

BOTANIC DEPARTMENT.

15 ¶ THE *indications* are, 1st, to restore an equilibrium of vital action: 2nd, to remove obstructions; and, 3rd, to maintain a healthy action.

TREATMENT. The patient should commence taking the bland teas, as sage, balm, spearmint, or the like, in

combination with weak lobelia tea. When the fever has somewhat subsided, let him go into the vapor bath, and continue in it until there is a free and universal perspiration; he may then be wiped and rubbed dry and put in bed, then give him an active emetic, and follow it shortly with boneset tea, aided by black root; administer a relaxent injection, and if the fever does not yield readily, let him go into the bath again, and continue there till the perspiration is free, then dash with cool water and rub completely dry; now give him half a teaspoonful of cayenne and quinine every hour for three or four hours. The bath frictions and teas may have to be repeated every day, in violent cases, for three or four days, followed by the cayenne and quinine. The bowels must be kept loose, with the vegetable pills, or the cold infusion of boneset.

SECTION III.

SECOND INFLAMMATORY FEVER.

46 ¶ THE inflammatory type of remittent, or, as it is called, bilious fever, is attended with the highest grade of febrile excitement, *associated* with increased *irritability*, as well as accelerated power of action in the heart and arteries. In this type or grade of fever, the bile is often deficient in quantity and depraved in quality. The appearance arises from the fact that, instead of being mingled with food in proper quantities, it is thrown back into the stomach, or carried to the

surface, by the circulation, causing a yellow tinge of the skin. It makes its attacks at all seasons of the year, but is most prevalent in the spring, and it seizes persons of all ages and habits, but more particularly, those in the vigor of life, with strong elastic fibres, and of a plethoric constitution. It is a type of fever almost peculiar to cold and temperate climates, being rarely met with in warm regions. I have already remarked that, fevers *intermit* or *remit*: this is strictly true—in every form and variety of fever there seems to exist an inherent tendency in the general morbid excitement or symptoms, to remit or abate in their violence, at some period during the day; and this remission or regular periodical fluctuation, in perhaps, ninety-nine cases out of a hundred, occurs during the morning and the maximum height of evacuation in the evening. This alternate abatement and increase, goes on generally in an inflammatory fever, until the seventh, ninth, or eleventh day; seldom reaching beyond the fourteenth; and finally terminates entirely under some critical evacuation.

47 ¶ SYMPTOMS. The premonitory stage is always short, the fever coming on suddenly, with distinct chills or rigors; the febrile reaction is rapidly developed, the whole surface becoming speedily intensely hot, dry, and parched; the eyes suffused and sparkling, and incapable of bearing the light; oppressed and hurried breathing; great pain, restlessness and thirst; white furred tongue; bowels torpid; pulse full and vigorous, rarely above one hundred and twelve in a minute; nausea, and sometimes vomiting; buffy appearance of blood; and, when the febrile symptoms run high, in its more advanced stage, delirium supervenes, and the patient raves vehemently.

48 ¶ CAUSES. The exciting causes are sudden transitions from heat to cold, atmospheric vicissitudes, high solar heat, swallowing cold liquids when much heated by exercise, indulgence in high seasoned and irritating articles of food and drink, irritations, topical inflammation, sudden suppression of natural or habitual evacuations, mechanical injuries, &c.

49 ¶ PROGNOSIS. The prognosis is generally favorable, and least dangerous of all the varieties of remittent fever, so long as it retains its simple form. "When local inflammation supervenes, the danger will be more or less increased, according to the importance of the organ or structure in which the inflammation, occurs, or, the variety and force of its sympathetic connexions, and according also to the intensity of the inflammation," existing in the chest, abdomen or brain.

50 ¶ TREATMENT. The principal *indications* of cure, are, 1st, to diminish the momentum of the circulation and restore the natural actions of the various exciting organs and surfaces: 2nd, to equalize the circulation, and obviate local congestions: 3rd, to clear out obstructions which have a tendency to irritate, and maintain an equilibrium of action. 1st, to accomplish our intentions with as little expenditure of the vital resources of the system as possible, we should make a large orifice in the vein, and cause a full stream to run, in order to lessen the vascular action, and the momentum of the circulation. This should be done at the very onset of the disease, and we should bleed in such a copious manner that it will not have to be repeated, or we will induce debility and prostration by it. The

pulse should be our guide in this matter, if it be active, quick, tense, or hard, the patient will bear the loss of considerable blood, but it should be borne in mind that, the habit of the patient, and the stage of the disease, have much to do in settling the efficacy of blood-letting.

The *cold dash* is truly a great means in lessening the febrile action. Two or three buckets of cold water dashed all over the body in a state of nudity, when the skin is hot and dry, will materially lessen the fever. This I often repeat during the excited stage. I would not willingly yield this agent for any other in curbing febrile reaction. I much prefer it to sponging with tepid or cold water. Also, the patient should be allowed to drink freely of ice water, soda powders prepared with ice water, cold infusion of slippery elm bark, lemonade, &c.: 2nd, as the bowels are almost invariably more or less constipated in this variety of fever, and liable, therefore, to irritation from this source, they ought always to be early evacuated by saline purges, and occasionally continued throughout the whole course of this disease. Salts, soda, cream of tartar, and castor oil, are well adapted for this purpose: 3d, torpor of the cutaneous exhalents is generally the first link in the chain of morbid action, which takes place in the development of these maladies, and often continues throughout the greater part of their course, unless overcome by the employment of suitable sweating remedies. Ten grains of nitre and one-eighth of a grain of tartar emetic, made into a solution, and a small part taken every hour, is very serviceable to keep up an action on the skin: 4th, if local congestions take place, leeching, cupping, blistering, or counter irritants, will prove

useful. Firm pressure should always be made from time to time on the region of the stomach and bowels, to see if they are tender or inflamed. The use of cool acidulated drinks, spirits of nitre, the infusion of boneset, pleurisy root, with perfect quietude, and free air, may also be enjoined.

BOTANIC DEPARTMENT.

16 ¶ THE *indications* are, 1st, to relax the system and restore the secretions and excretions: 2nd, to stimulate the obstructed, oppressed, or diseased organs to action and depuration: and 3rd, to restore equilibrium of action to the general system and give the diseased organs a healthy tone.

TREATMENT. On being called to a case of high action we have no time to spare. The surface should be immediately sponged, or dashed all over with cool or cold water, and at the same time relaxant teas, as sage, balm, catnip, spearmint, and small doses of weak lobelia tea should be given: also, relaxing injections should be used, at the same time repeating the cold dash, teas, and injections until the temperature is permanently reduced and the patient becomes comfortably cool. The patient should then be freely vomited and purgative injections administered. When the fever subsides, and the stomach is quieted, the vapor bath should be applied, during which large draughts of pluerisy root tea, may be used. The feet should always be immersed in hot water during the action of the bath,

and should there be much difficulty in relaxing the system, or producing vomiting, which is really essential, the relaxant medicines should be put into the current of vapor or dropped into the boiler immediately before or after the patient gets into the bath. The bowels must be kept freely open by castor oil, or vegetable pills. The depurative treatment must be continued by the alternate and active administration of the bath, relaxing, and stimulating remedies of the most permanent character until the obstructions are removed, secretion and excretion fully established, and a healthy action given to the system. His food should be light, and his drinks may be acidulated with vinegar, lemonade, &c.

SECTION IV.

3RD:—CONGESTIVE TYPE.

51 ¶ I HAVE already written on the unity of fevers, and given my reasons for dividing them as I have. Any person who will take the trouble to hunt up all the varied and discordant theories, divisions and doctrines which have been set forth in different ages, on fever, will assuredly conclude that he is not very far from the ridiculous; although fevers are of one family, yet it is not more improper to say that men are of different species, because some are tall and others short, or, because some are long and others are short-lived, than

that fevers are of different types or species, because they vary in their symptoms and duration.

Congestive fever is a malignant form of remittent, wherein the action of the heart and all the vital powers are so much weakened, by a depressing agent, that the stage of excitement or reaction, cannot be completely and fully developed. The blood recoils from the external surface, and consequently, the internal structures are in a high state of engorgement. The vital powers resist feebly, hence instead of an increased temperature of skin, it is greatly decreased, beyond the natural standard. This discord is occasionally met with in the autumn and fall, in malarial districts, but more especially in the southern states.

52 ¶ SYMPTOMS. It is generally attended with rigors and sometimes severe and long continued chills, the tongue is moist with a thin white fur upon it, pulse weak, irregular, and accelerated, hurried and distressed breathing, great thirst, and much restlessness prevails. "This stage has no definite time of duration, generally lasting from one to six hours, before a partial reaction takes place, and in some malignant cases reaction never takes place, the patient perishing in the first paroxysm. But usually, there is a slight glow of heat upon the surface, which lasts but a short time before the body is bathed in profound perspiration, continuing until another paroxysm comes on, which generally occurs within twelve or twenty-four hours." In some cases the second or third paroxysm closes the scene. The extremities are cold, attended with great heat in the regions of the stomach and bowels; at first the stomach is irritable, afterwards it becomes torpid.

53 ¶ CAUSES. The principal cause seems to be the receiving of a large quantity of miasmata or malarial poison into the system; which by its sedative influence, speedily prostrates the vital powers, thereby rendering them incapable of producing that reaction which is necessary to fully develop the hot stage.

The *prognosis* in this form of fever is very unfavorable, unless prompt and energetic means are used to relieve the internal congestion, restore an equilibrium in the system, and prevent the collapse, which is so general in this disease.

54 ¶ TREATMENT. The secretions in this condition of the system are all suspended for want of an equilibrium in the circulation. Now, to change this condition of the system is the chief *indication* of the physician. The most common practice consists in stimulating externally with hot water, hot air and strong external excitants, aided by opium, calomel, and internal diffusible stimulants, sometimes by the lancet. But by far the most successful treatment consists in what is called the *cold dash*. "The mode of applying it, is as follows: the patient is stripped entirely, and fifteen or sixteen gallons of the coldest water that can be procured are quickly dashed all over him, he is then wiped dry and placed in bed. This course is pursued even if there is not strength to sit up and submit to it, which is very unusual, as the muscular strength is generally well sustained." Instead of creating any unpleasant agitations, it at once composes the restlessness of the patient. "The system begins to react, the cold sweat which was profuse, ceases; the skin gradually recovers its warmth; the pulse slowly rises, but this favorable state of things

does not usually continue long, in most cases, before the sweat again makes its appearance, and with it the other unpleasant symptoms. No sooner do these recur than the remedy is again applied with like happy consequences as before. We regard the sweat referred to as the grand indicator of the physician, it governs him in the administration or repetition of the remedy. How often he must recur to the affusion cannot be foretold, one application is sometimes sufficient, but most frequently more are required. I have sometimes had to use it four or five times during twenty-four hours, but usually once or twice will suffice." After the happy effects of the cold dash, and so soon as reaction is established, ten grains of quinine every two hours ought to be used to prevent a repetition of paroxysm. It should be borne in mind that timidity or hydrophobia, or dread of water, has been the fruitful source of many a death. It is a powerful and active agent in the treatment of most febrile complaints.

BOTANIC DEPARTMENT.

17 ¶ THE principal *indications* are: 1st, to increase the vital energies and bring on reaction: 2nd, to sustain an equilibrium on the surface: and 3rd, to prevent internal congestions.

TREATMENT. Active means must now be used externally, as well as internally. Sponge the surface with the vapor bath, or with a hot salt bath and cayenne, and apply large mustard poultices to the

extremities. Give warm tea of lobelia, boneset, catnip, pleurisy root, &c. When by these means you get the pulse pretty full, soft and slow, give a full course of medicine, using no astringents nor active stimulants, but relaxants, spear mint and balm, with relaxing injections to the bowels, warmth to the feet, and cool water to the head. Give fluids freely to drink, and let some of them be of the diuretic character; as soon as the fever is fairly broken, and the circulation equalized, give half a teaspoonful of equal parts of cayenne and quinine every half hour for five or six hours. If at any time the fever begins to rise, give lobelia pills, in small doses, every half hour, night and day, till it yields. If the bowels do not keep loose, give boneset tea, aided by black root or the vegetable pills. Should the fever not readily yield, repeat the bath and the emetics as often as necessary to break the severe paroxysms.

SECTION V.

4TH: — TYPHUS.

55 ¶ It is in this peculiar form of fever that the vital powers are greatly depressed, and are generally incapable of removing the offending cause out of the system, through the instrumentality of their proper organs. As the human system is continually under the influence of causes which have a tendency to interrupt and terminate its actions, life would be but

ephemeral in its duration, and harrassed by continual disease, if the animal organization were not endowed with the inherent power of restoring and throwing off, to a certain degree, the influence of injurious causes. It is by the aid of this vital resistance, and the power of ridding itself of noxious agents, that man is enabled to live through a long series of years, amidst a multiplicity of causes, which conspire, unceasingly, to his destruction. But it so happens in this disease, that the typhus miasm or poison, is too powerful to be rejected at once, and hence there is a great prostration in the mental and physical powers, with a tendency in the fluids to putrefaction. There is in this disease a stage of depression and excitement, as in other forms of fever, attended with more or less remission, or a better day and a worse.

56 ¶ SYMPTOMS. Upon the commencement of the disease, the person is seized with "a peculiar uneasy sensation at the pit of the stomach, want of appetite, slight giddiness and nausea, pale, shrunk, and dejected countenance, dull and heavy eyes, often tremor of the hands, and a general feeling of weariness, debility, and disinclination to mental and corporeal action; these premonitory symptoms usually continue from three to six days, terminating in those which mark the stage of invasion, (viz.:) slight chills, alternating with flushes of heat," tongue covered with a thin whitish fur, a quick, small, and irregular pulse, great physical and mental depression. This stage generally occupies from six to twelve hours, and terminates in the stage of *excitement*. The febrile heat now increases considerably, the pulse is fuller, tongue more furred and brown, bowels torpid,

patient restless and watchful, some stupor and delirium, slight catarrhal symptoms supervene, some tenderness in the region of the stomach and bowels, considerable pain in the back, loins, and extremities, hearing becomes obtuse, trembling of the tendons, purplish spots appear on the surface, and generally a fine eruption on the skin. The stage of excitement generally continues about six or seven days before it terminates in the stage of *collapse*, when there is a great sinking and prostration. This extreme period of collapse generally lasts from seven to nine days, terminating either in slow convalescence, or in *death*. The *crisis* does not usually take place until the fourteenth, seventeenth, or twenty-first day. The progress of convalescence is generally slow and tedious. Such is the cause and principal phenomena of simple typhus, in its regular progress. Deviations and various irregularities do indeed frequently occur, even in the simple form of the disease, sometimes they are highly inflammatory, at other times, low and prostrative, now and then complicated, and attended with internal congestions, but they are seldom such as to efface the peculiar character or essential nature of the malady.

57 ¶ CAUSES. It is doubtful whether this disease arises from common malaria, but one thing is certain, that *contagion* is its prolific source, and that the morbid effluvia which is generated and evolved in very crowded, confined, and filthy apartments, ill ventilated shops, jails, hospitals, camps, and by the decomposition of human effluvia, may, and often does originate the disease. When the moral and physical energies are depressed by a combination of hardships, privations,

poverty, filthiness, with the powers of vital resistance impaired, the contagious poison well manifests its deleterious effects upon the animal system. When it is once generated it is communicable from one person to another, either from the body of a person laboring under it, or conveyed in clothes, merchandise, fomites, &c. As I have already written so much on the causes of fever, I will only refer you to that subject, more especially to the 15th and 16th paragraphs.

58 ¶ **DIAGNOSIS.** It is readily distinguished from the inflammatory by the smallness of the pulse, sudden and great debility, which ensues upon its first attack, and in its more advanced stage by the petechia or purple spots, which come out on various parts of the body, and the foetid stools which are discharged. It may also be remembered that, other types of fever may occasionally assume a typhoid condition in their progress, but then they are not identical with this original type of fever, and consequently, they demand a distinct and independent form of treatment. We also have local inflammations connected with a typhoid state of the system, as in typhoid, pneumonia, pleurisy, &c.

59 ¶ **PROGNOSIS.** The general course and degree of violence of the disease, in connection with the degree and situation of the internal local inflammation, will usually afford sufficient data for the formation of a probable judgment. The brain, the lungs, the mucus membrane of the bowels, the liver, and the surrounding membrane of the abdomen, are the parts most apt to become inflamed, in typhus. Now, if these parts are not disorganized by excessive local congestions, we may

anticipate a favorable issue. Among the favorable signs may be mentioned, spontaneous vomiting, during the first and second days of the disease. Slight bleedings from the nose, about the sixth or seventh day of the stage of excitement, moderate looseness at an earlier period, moderate and quenchible thirst during the stage of collapse, and if the functions of the brain be not much disturbed during the collapse, the issue will most probably be favorable. But if, on the contrary, there is a change in the expression of countenance, at an early period, violent or low muttering delirium during the stage of excitement, blindness, involuntary flow of tears, palsy of the tongue, and difficulty of swallowing, distortion of the muscles of the face, pain or great tenderness of the abdomen, picking at the bed clothes, heavy bleeding, and involuntary discharges from the bowels, &c., we may be sure they are unfavorable signs.

60 ¶ TREATMENT. In prescribing for typhus fever it is of the utmost consequence to bear in mind its different stages, and also its peculiar variety, whether it be of the simple inflammatory or congestive character. When once the disease has become established, it is difficult to cut it short by any agency. The efforts of the practitioner are, consequently, restricted, to tampering with morbid actions, especially to the removal of any congestions that may supervene in the internal organs.

1st. Sometimes it becomes necessary to bleed;—when, however, it is practised, it should be in an early period, at the very onset; but, in many epidemics it does not appear to be productive of any advantage;

even then cups or leeches may be demanded in local determinations.

2nd. Mild emetics seldom fail to improve the condition of the skin, and to obviate the tendency to internal congestions. Gentle purgatives are, indeed, among our most useful remedies, throughout the whole course of the disease. Some suppose that calomel, followed by castor oil, is preferable to any other physic. At the commencement of the fever more active purgatives will be required than during its farther progress.

3rd. Another very important remedy in the stage of excitement, is, the diffusion or sponging of the system with cold water; when the skin is steadily hot and dry, this is highly salutary. Mild sweating remedies, such as the sweet spirits of nitre, soda powders, connected with very small doses of ipecac or antimonial wine, will, in many cases, prove valuable auxiliaries.

4th. As revelants, stimulating treatments of various kinds, for example, oil of turpentine, produce important effects. It has very judiciously been affirmed that, there is a period in fevers called a "blistering point," when these agents may be used with eminent advantage. If the excitement be above the point, blisters are improper; if below, they may be very advantageous in local congestions.

5th. During the stage of collapse, *tonics* may be necessary to keep up the sinking energies of the vital powers. The quinine may be liberally employed for this purpose. In addition to this, wine, carbonate of ammonia, and other diffusible stimulants, may be largely given. With regard to the dietetic management of this disease, it is scarcely necessary to state that, the simplest kinds of liquid nourishment are alone admissible. Of

these, however, the patient may be allowed as much as he can be induced to take, more especially during the sinking stage of the complaint. Barley water, arrow root, slippery elm tea, &c., at an early period. Subsequently, when more nourishment is required, beef tea, or chicken soup, will answer exceedingly well. Free ventilation, and perfect cleanliness should be enjoined; and, when many patients are crowded together they should be removed. Fumigations of chlorine, prepared by adding diluted sulphuric acid to the chloride of lime, may also be employed.

BOTANIC DEPARTMENT.

18 ¶ THE principal *indications* to be fulfilled in the treatment of typhus fever are: 1st, to relax the system and equalize the circulation and nervous action: 2nd, to maintain vital action steadily: and 3rd, to alter the morbid secretion and support the sinking energies of the system.

TREATMENT. This is a fever which demands all our exertions, and which will test the truth and usefulness of the botanic practice. Commence then with the warm antispasmodic teas, sage, balm, ginger, nervine, or the like, and if the surface is hot, bathe it with weak lye, cool to the patient: continue the teas with small portions of lobelia, till the pulse becomes slower and fuller; then give a full emetic, aided by mild teas, and afterwards a loosening injection. Now put the patient on a cot covered with a blanket, and double sheets

around its sides and ends reaching to the floor, and throw the vapor under it. Raise the temperature gradually, and let his head be out and have fresh air, cool drinks, and keep him there till the circulation seems equalized, his stomach settled, and his system easy. If he feels faint, slacken the vapor, dash cool water on his face and breast, lay his head and shoulders lower than his body, and he will soon recover. Wash him thoroughly in the bath a few minutes after you put him in, to open the pores, and just before you take him out, to cleanse him of morbid matter, keep up the use of the antispasmodic teas, to which, if the bowels are constipated, boneset and black root should be added, till the whole alimentary canal is free. If the pulse increase in frequency, and the surface become dry, give broken doses of lobelia till you correct this evil. When the fever has entirely subsided give, every hour, a teaspoonful of equal parts of cayenne and quinine, for several hours every day, or as long as there is not much fever, remembering to return to your relaxing course if the fever should return. If the bowels are hot and tender, put a large elm poultice on them, and should the pulse sink, give the more cayenne and quinine, and if the extremities become cold, apply mustard poultices to them. Repeat the emetics, injections, black root and the bath, as often as you fail to effect your object without them. Pursue this course of treatment till the fever subsides—the appetite recovers—the strength returns—and your patient is out of danger.

SECTION VI.

5TH:—HECTIC FEVER.

61 ¶ HECTIC fever may be regarded as a form or type of remittent, and is considered mostly as a symptomatic fever, but as it occurs in diseases of different organs, it requires a distinct consideration. It is peculiar to those diseases where there is extensive suppuration or serious derangement of structure or function, persisting for any great length of time. It has its exacerbations at noon, but greater in the evening, and is attended with slight remissions in the morning, after nocturnal sweats. Most commonly hectic fever commences slowly and insidiously, and is not suspected for some months before its full development. Its remissions are so complete in many cases, that it has been mistaken for and treated as an intermittent.

62 ¶ SYMPTOMS. The peculiar symptoms are, debility, a small and quick pulse, usually varying from ninety to one hundred and twenty in a minute, and slight chills, which are followed by febrile flushings, exacerbations, and general readiness to be thrown into sweats, loss of appetite, wasting, burning sensations in the palms of the hands, and the soles of the feet, a circumscribed flush or glow upon the cheek, costiveness, and sometimes constitutional purging and night sweats, attended with a derangement of the digestive organs.

63 ¶ CAUSES. Undoubtedly hectic fever is most frequently observed along with organic or structural diseases, that are accompanied with the secretion of purulent matter or pus, as in consumption, abscesses, scrofulous affections, &c. The duration of this irritative fever is also various, owing, most probably, to the disease which gives rise to it. It is connected with lingering or galloping consumption; most commonly, however, it lasts nine or ten months.

64 ¶ TREATMENT. It need scarcely be said that, depending, as it does, upon diseases affecting some part of the economy, the main treatment must consist in due attention to the primary malady. This is one of many diseases in which the art of medicine has hitherto labored in vain to strike into any direct track of cure. Is the skin steadily hot and dry?—purges given occasionally with the use of ice and of cold or tepid ablu-tion, to the arms and face, will be found to temper the morbid heat, and in this manner diminish the extent of the sweating stage. Is the patient harrassed by restlessness and night sweats?—give him tonic acids, elixir of vitriol, lemonade, &c. Is he too loose in the bowels, attended with griping?—give him opiates, Bateman's drops, and prepared chalk, and the cold infusion of wild cherry bark. Does he still sink, with loss of appetite?—administer the syrup of naphtha, and gentle tonic bit-ters, barks, quinine, &c., &c. Are the digestive organs weak?—allow him mild nutritious diet, gentle exercise, free ventilation, warm clothing, and cooling drinks, &c. Such must be the general course of the humane physi-cian; while, at the same time, he directs his best ener-gies to remove the original cause; and, when he cannot

radically cure, he must palliate and soothe the pillow of affliction, and wait until the "Grim Monster" cures the disease by destroying the patient.

BOTANIC DEPARTMENT.

19 ¶ THERE is but one *indication* to be fulfilled; to support the strength of the patient.

TREATMENT. This is no disease, but a symptom of many forms of disease in the last prostrating stage. The bowels should be kept open by injections and some good laxative bitters, golden seal, bitter root, cold infusion of wild cherry bark and nervine. Much attention must be paid to diet, clothing, exercise, and every means that is calculated to reduce the vital powers should be avoided.

SECTION VII.

6TH:—MILK FEVER OR SICKNESS

65 ¶ MILK SICKNESS is known by different names in the various places where it has prevailed, as, sick stomach, trembles, puking, fever, &c. For the last sixty-five years the medical fraternity have been engaged in investigating this malady. Some suppose it to be a specific malady, having, for its cause, a specific

poison, whilst other writers of its symptoms, cause, character, course, and treatment, believe that it is not a separate and independent disease. It generally prevails from May to November, and is met with in certain marshy parts of most of the western and southern states. In its progress it exhibits its remittent form. Its mortality has been great in some places, though it assumes, like many other fevers, its different shades and grades, from the simple gastric pain and puking, up to the severest remittent type.

66 ¶ SYMPTOMS. "It has a forming stage of lassitude, weariness, listlessness, yawning, loss of appetite, slight transient pains in various parts of the body, and a general sensation of uneasiness and discontent: after a period of variable duration, these symptoms are succeeded by a burning pain in the stomach, and vomiting, intense thirst, constipated bowels, cold extremities, great muscular debility, pain in the head, back, and limbs, soreness across the stomach, and bowels moist, whitish furred tongue, pulse variable, being in some cases natural, in others, full, or soft, or small, and frequent. There is said to be a peculiar odour, resembling that produced by salivation, attending this stage of the disease; and, indeed, according to *Dr. Graff, and others*, every stage of it being, according to them, the first premonitory symptom." The skin may be dry or hot, or bedewed with perspiration. In severe cases the nausea, vomiting, restlessness, and thirst, are very great. The matter ejected from the stomach is at first the food, drink, bile, glairy mucus, and lastly, a mixture resembling coffee grounds. Delirium of a low mutter-

ing kind, coma, and sometimes death closes up the scene, in from three days to three weeks.

67 ¶ CAUSES. This has been a field of interminable controversy, and to this day is not satisfactorily established. The original cause of *trembles*, in cattle, is assigned to different agencies; some suppose it to arise from their eating the poison vine; while others attribute it to the use of water impregnated with *arsenic*; whilst others believe it to arise from the common poison, *malaria*: one thing is certain that, cattle which feed on cultivated fields do not become affected with it. When they feed in the woods or prairies in the summer and fall, they often labor under it, especially when they are allowed to graze or browse in a dense thicket of underwood, in certain localities or districts which are subject to it: it also affects horses, sheep, hogs, and dogs. From the time of receiving the poison to the development of the disease, varies, from two to ten or fifteen days. The testimony of writers has uniformly given the *product* of cattle affected with the *trembles*, as the cause of milk sickness in the human subject; and, either the milk, butter, cheese, or flesh, of such animals as are laboring under it, will, if taken into the stomach, engender the disease, and cause that diminution of the calibre of the stomach which is exhibited after death.

68 ¶ DIAGNOSIS. To those who are acquainted with the disease, the diagnosis is very certain; they can readily distinguish it from all other diseases, immediately on coming into the room. The peculiar fetor of breath, the costiveness or torpidity of the bowels,

with the regular and increasing retching and vomiting, are among its principal distinguishing marks, and are sufficient of themselves, to identify the disease, and class it at once. In its more advanced stage there is a death-like coldness of the hands and arms—scarcely ever much febrile excitement—this peculiar fetor from the body, &c.

69 ¶ PROGNOSIS. This is more favorable now, since physicians have become acquainted with the treatment, than formerly. Perhaps not more than four or five per cent. die, and this is generally owing to the shattered constitutions, that are impregnated with this morbid poison.

70 ¶ TREATMENT. There are three *indications* to fulfil.

1st. To check the vomiting.

2nd. To open the bowels.

3rd. To break up the febrile action.

The first is very difficult to effect, and indeed cannot be accomplished entirely, until the second or even sometimes the third indications are met. To meet the first indication, three or four grains of calomel, one of ipecac, and one and a half or two grains of opium, mixed into a powder, is to be given and repeated every two hours, until the effect of the opium is manifest; also, apply mustard poultices to the region of the stomach and extremities, and cold water to the head, this will generally lengthen the intervals between the spells of vomiting, provided you can keep the patient from much drink: soon as possible give castor oil to move the bowels, and repeat it as occasion may require. It is

agreed on all hands, that early, prompt, and constant injections should be used in order to open the bowels, and relieve the constipation as soon as possible. Common table salt dissolved in warm water will answer exceedingly well for injections: its effects may be increased by the addition of five drops of Croton oil. When the poultice is removed from the stomach a large blister may be put on the stomach, and kept constantly running. The use of soda powders may be of considerable benefit to the patient, in quenching the tormenting thirst, nausea, retching, and vomiting.

The *cold bath* may be of considerable use, and during the remission, quinine may be used with much benefit. We should remember that harsh purgatives will irritate the stomach, and should not be relied on to open the bowels: the diet should consist of barley water, soup, rice water, &c. It should be remembered that, it is better to keep some gentle nourishment on the stomach, thereby promoting that collapse and closing together of the irritated surfaces, which always keep up more or less of irritation or inflammation.

BOTANIC DEPARTMENT.

20 ¶ THE prominent *indications* of treatment are: 1st, to allay the excessive irritability of the stomach: 2nd, to remove the obstructions and open the bowels: and 3rd, to equalize vital action and give tone to the system.

TREATMENT. If the patient is too sick to set up,

put him on the cot, bathe and give him weak lobelia to take off the tension of the stomach, and purgative injections to relieve the bowels, then apply the steam to relax the surface; and when this is properly done, give lobelia, so as to produce thorough vomiting, that the stomach may be relieved of all irritating matter—continuing the injections, and at the same time administer gentle purges, aided by laxative bitters, so as to keep the bowels freely open. Weak lye may also be given to allay the excessive retching and vomiting, at the same time mustard poultices may be put on the stomach. The bath must be occasionally resorted to, but especially the emetics, purges, and injections, must be continued until the bowels are free, and the fever subdued, then the tonic bitters, together with suitable food, will soon brace up the system.

SECTION VIII.

7TH:—YELLOW FEVER.

71 ¶ YELLOW FEVER evidently belongs, and is classed, by writers, with the remittent type of fever. It is subject to many shades and varieties, from the mildest to the most malignant form of any fever. Persons who are acclimated or seasoned to the regions where it prevails, endemically, and epidemically, generally have it as mild as any other form of remittent fever; whilst others have it in its most malignant and fatal form. It is peculiar to the southern and hot parts

of Europe, also the southern part of the United States, are occasionally visited with this malignant form of fever: it is called "the seasoning or stranger's fever." From the unity of fevers, as I have already remarked, other forms frequently in hot climates run into this variety.

72 ¶ SYMPTOMS. The patient is attacked suddenly with pain across the forehead, back, stomach, and extremities, sickness, redness of the eyes, prostration of strength, giddiness of the head, torpor of the bowels, soreness of the flesh, aching of the bones, tenderness across the stomach, chilliness, laborious breathing, skin dry and hot, sometimes deluged in moisture, often yellowish, pulse frequent, soon becoming full and strong, vomiting, tongue red and covered with a white or yellow fur, countenance flushed, great thirst, suppressed secretions, restlessness, stools watery, often black vomit, watchfulness, and delirium: these are the most prominent symptoms, though frequently mild or malignant, according to the severity of the case.

73 ¶ CAUSES. It often prevails epidemically, and endemically, and seems to be induced by a unison of local emanations with a favoring condition of high atmosphere, ranging above eighty degrees. It has never prevailed to any extent at a distance from the sea. It is also contagious and communicable from clothes, merchandize, and persons laboring under it. The cause, whatever it may be, seems to spend its primary strength upon the brain and nervous system, and the congestions which follow the invasion of the disease seem to be mostly on the stomach and liver, though

other organs occasionally seem to be in a state of derangement.

74 ¶ TREATMENT. From the severity of the disease it is manifest that a prompt and energetic course is demanded. It was customary in the first stage to bleed freely, and powerfully, and then to open the bowels speedily, with suitable cathartics: calomel in large doses was considered preferable to any other, followed by castor oil or salts. Blisters were early applied to the region of the stomach, and for a cooling beverage soda powders were freely used, when the skin was hot and dry, cold affusions were resorted to, and occasionally sweating remedies were given; and when the pulse and temperature sank, active tonics were administered.—“Within the last few years much attention has been paid in Louisiana, to the effect of large doses of *quinine* in yellow fever, not administered during a period of remission, but in the very incipient or forming stage of the disease, whilst the morbid action is forming, and before any local lesions have occurred,” for example, six or eight hours after the appearance of the earliest symptoms, the quinine was exhibited in one or two very large doses, of from twenty-five to eighty grains, and it is said to have acted almost like a charm. I have no doubt but quinine will cut the disease short, and most other forms of fever. It is a sound theory that any thing that will cure a disease. will, if timely administered, prevent the recurrence.

BOTANIC DEPARTMENT.

21 ¶ INDICATIONS are: 1st, to prevent congestion: 2nd, to relax and stimulate the surface: and, 3rd, to alter the secretions and excretions, and tone up the system.

TREATMENT. At the onset of the disease give a thorough emetic of lobelia, followed by laxative injections; before the emetic is done operating put the patient into a horizontal bath, and apply the vapor gradually; when he perspires freely, take him out, wash, dry rub, until he is dry, then give a tea spoon twice full of equal parts of cayenne and quinine, every hour for three or four hours. If the fever begins to rise give a weak tea of lobelia, followed by the relaxant teas, then let him go into the vapor bath again, continuing the teas and steaming until you have relaxed the system and restored an equilibrium of vital action: then rub and wipe dry, after repeating the cayenne and quinine as before. If the fever begins to rise give the lobelia tea, and should it not equalize vital action so as to keep the surface moist, you must resort to the bath once or twice daily. If the extremities become cold rub them with number six, and apply mustard poultices. Should the disease continue long, and the pulse sink, tonic bitters must be given freely to support the strength, and give energy to the system.

CHAPTER III.—SECTION I.

ERUPTIVE FEVERS.

75 ¶ UNDER the head of eruptive fevers may be comprised those cutaneous eruptions that are essentially associated with fever. They are strictly of a *specific* character.

1st. They are marked by the presence of fever which runs a defined course.

2nd. They are attended with an eruption, which, like the accompanying fever, goes through a regular series of changes.

3rd. They occur to every individual once, and once only during life.

4th. They arise from specific contagion.

The eruption may be regarded as a natural effort to direct the irritation towards the cutaneous surface, and hence it has been affirmed that, it ought to be looked upon as a natural blister, acting as a contra irritant. It is produced by powers inherent in the constitution, that enable it to remove so much of the diseased action from an internal organ, the functions of which are more immediately necessary to life. In their character as to mildness, or malignancy, almost all these diseases are naturally modified by the nature of the prevailing epidemic: they are unquestionably also modified by particular constitutions, and the difficulty in their management is greatly dependent upon the difficulty in appreciating those points.

SECTION II.

SMALL POX.

76 ¶ THIS is an eruptive fever, propagated by contagion, running a definite course, affecting persons but once in the course of their life, and its origin is lost in antiquity. From the time of exposure to the poison or contagion, to the appearance of the disease, varies generally from seven to fourteen days. It is generally divided into *distinct* and *confluent*, and has four different states or stages: 1st, the febrile: 2nd, the eruptive: 3rd, the maturative: and, 4th, the declension.

77 ¶ SYMPTOMS. Langor, weariness, and aching pains in the back and lower extremities, slight creeping chills, with flushes of heat and pain in the forehead, nausea and vomiting, thirst, and some degree of soreness in the roof of the mouth and pit of the stomach. The eruptive fever commencing generally the second day, and the eruption begins towards the end of the third and beginning of the fourth day. The pustules appear first on the forehead, and then on the parts about the mouth and nose, next upon the forearms, and last of all on the lower extremities, so that in about twenty-four hours the eruption is completed.

In cases of distinct *variola*, the fever is greatly relieved on the appearance of the eruption. When the eruption first appears the pimples are separated and consist of red points, which, by the middle of the second day, present small elevations with inflamed bases, and,

about the third day the tops become vesicular and transparent, and on the next day the pustular character is marked, and suppuration has commenced. The fluid appears at first in the central points, and becomes more and more abundant, and about the fourth day more whitish.

78 ¶ SUPPURATION. When the *stage of maturation* commences, the febrile symptoms usually reappear about the eighth day, when the crop of pustules is pretty numerous, the face begins to swell, and soon the eruption begins to dry up, after the bursting of the pustules scabs form, and generally they fall off in the course of four or five days, forming the stage of *decline*. By the fourteenth day of the eruption the fever has generally subsided, the swelling of the face has disappeared, and the scabs have fallen off. The discoloration sometimes continues for months, and the pits remain for life.

CONFLUENT CHARACTER. In this variety all the precursory symptoms are more severe; the eruptive fever runs much higher, and often assumes a typhoid character. The eruption is confluent, and the small red papular points which appear at first, run into each other and form a large red tumefied and somewhat rugose surface. When the suppuration is completed a very manifest aggravation of the febrile symptoms occur, constituting what is termed the suppurative or secondary fever. Such is the usual course and phenomena of the distinct and confluent varieties of small pox.

79 ¶ CAUSES. It is propagated by contagion, through the medium of the air, and by inserting the variolous matter under the outer layer of the skin, as in

inoculation. It may arise from unventilated clothes, or from scabs, for a long period afterwards;—season, climate, age, or sex, are devoid of influence over it.

DIAGNOSIS. During the first day of the eruption it resembles measles or febrile lichen. The peculiar fetor of the breath, in small pox, is very different, and the flea-bite eruption is complete much sooner. In the distinct variety the eruptions are perfectly separate from each other; and, in the confluent, they run much into one another.

80 ¶ **PROGNOSIS.** Small pox is more dangerous to very young or to old persons. The *distinct* and simple form is by no means a dangerous affection; while the *confluent* variety is always attended with great hazard to life. The average deaths are one in four. The greater number of pustules the greater is the danger.

SEQUALA. Small pox wakes up many a latent disease, and springs into action chronic affections of the skin, consumptions, dropsies, rheumatic pains, ulcerations, inflammations of the eyes, and a host of scrofulous affections.

81 ¶ **TREATMENT.** In the distinct form not much is generally needed. It is sufficient to adopt cooling regimen, free ventilation, and administer cooling purges once or twice a week. If the system is plethoric and the inflammatory action high, blood may be taken from the arm; or, should this not be considered advisable, leeches or cups may be applied to the temples, if the head be mainly affected;—to the chest, if the air passages;—to the abdomen, if the abdominal contents be

seriously implicated. The patient should be on a mattress, in a dark room, with high and cool coverings, and his drinks should consist of cool acidulated beverages. In order to prevent pitting, the face should be smeared over with mercurial ointment; or, from fifteen to forty-five grains of *nitrate of silver* to one ounce of water, and a pencil dipped in the solution and applied to the eruption, the first or second day after their appearance, will destroy the pustules and leave no pock marks. Frictions of sulphur ointment have been followed by equally favorable results: should the pustules not fill in a satisfactory manner, the cause must be investigated. If there is internal congestion, bleeding or cupping should be practiced. If sinking debility, quinine, wine whey, &c. If at any time the eruption should be driven in, recourse should be had to means that have a tendency to determine the circulation to the surface, such as camphor, opium, warm bath, soda powders, &c.—When the eruption begins to dry off, and the complaint to decline, the patient should have recourse to the warm bath, with advantage to remove the incrustations, and to cleanse the surface. If the *secondary* fever occur, the whole refrigerant plan of treatment will be very necessary.

BOTANIC DEPARTMENT.

22 ¶ THE *indications* of cure consist: 1st, in keeping the patient cool and quiet: 2nd, the bowels open: and 3rd, the surface pleasant and soft.

TREATMENT. The patient should lie on a straw or husk mattress bed by himself, covered only with a few clothes, having the room cool, well ventilated, and constantly purified with soap suds and chloride of lime or soda, and the linen often changed and washed. The drinks should be acidulated, cool, and the bowels kept open with infusions of boneset, sumach leaves, &c. If the pustules do not fill, give a little warm composition tea, and if at any time a retrocession of the pustules takes place the vapor bath should be immediately applied. "When the scabs are all off, the patient should be thoroughly steamed and washed with soap suds or weak lye, while in the bath, drinking at the same time composition tea. Then the bath should be well scalded and fumigated with chloride, which last is the most conveniently done, by putting a gallon glass jar into it, and putting into the jar a half pint each of sulphuric acid and common salt, shaking it up and letting it remain so for a day." The clothing may be sufficiently cleansed by boiling water, and the room may be fumigated with chlorine. Great attention should at all times be paid to cleanliness, which is a preventive of all forms of disease and will do much to cure the worst of them.

VARIOLOID.

82 ¶ This signifies "small pox like," and persons who have had the small pox naturally, or been inoculated or vaccinated, may be subject occasionally to

this modified small pox. In persons who have been partially protected from an attack of small pox by vaccination the varioloid presents itself generally with all the symptoms of a mild attack of *variola*. The fever is rarely very high and the pustules generally arrive at their height in five or six days, filling rapidly with a turbid or milky fluid, and drying up by the fourth or fifth day without pitting.

TREATMENT. The medical management does not differ from that of *small pox*, being usually mild, the gentle and cooling treatment is all that is demanded.

BOTANIC DEPARTMENT.

23 ¶ THE *indications* and *treatment* are the same as for small pox, the principal difference being that the disease is milder and the danger less. The cold infusion of boneset, sage, &c., may be given to keep the bowels open and determine to the surface. If any of the internal organs become congested and oppressed, an emetic, injection or small doses of lobelia will generally restore an equilibrium and relieve the patient. What has been said on the subject of *cow pox* and *vaccination* will answer for both systems of practice.

SECTION III.

COW POX.

83 ¶ THE cow is liable to a disease called cow pox, which is communicable to the hands of milkers, especially if the skin is abraded, but is not infectious by effluvia. *Dr. Jenner*, in the year 1798, found that the matter obtained from the cow, labouring under the cow pox, and also the grease in the horse's heel, was capable of protecting a person from an attack of small pox.

VACCINATION.

84 ¶ THE matter obtained from these pustular sores of cows, or persons laboring under the cow pox, may be inserted under the cuticular skin of some part the arm, which in the course of three days will appear red and elevated; on the fifth, the elevation is found to contain a very small quantity of this transparent fluid; on the eighth, the vesicle is in its greatest perfection; on the ninth day the skin becomes tense, red and painful for a considerable extent around, and the glands under the arm swell slightly; febrile excitement is sometimes perceptible; on the tenth and eleventh days it begins to fade, a scab forms on the pustules, which hardens, gradually blackens, and finally, about the end of the third week drops off, leaving a scar, which when perfect, should be of a small size, circular, and marked with radiations and indentations. This affords

entire immunity from the small pox. The scab, if inclosed in wax, will retain its virtues for a long period. I have written on the balance of these eruptive fevers in another volume, called *Eastman's Treatise*.

CHAPTER IV.—SECTION I.

ARTHRITIC FEVERS.

85 ¶ WITH as much propriety as we establish a division of *eruptive* fevers, may we form one with the epithet "*arthritic*." In the former, the cutaneous affection formed only a part of the disease, and the same may be said of the affection of the joints in rheumatism and gout—the only diseases that fall under this division. (DUNGLISON.) Between these two diseases there is much analogy, so that we often term them rheumatic gout.

RHEUMATISM.

86 ¶ THIS painful disease may be divided into *acute* and *chronic*. Some suppose that the chronic is the result of the acute, but facts show that a person may be more or less crippled by chronic, and pass through life without suffering, perhaps, at all from acute. Rheumatism may arise at all times of the year when there are frequent vicissitudes of the weather from heat to cold, but spring and autumn are the seasons in which it is most prevalent, and it attacks persons of

all ages and sexes, but very young persons are less subject to it than adults; when persons have had it once they are ever afterwards more or less liable to its periodical returns.

87 ¶ ACUTE. This comes on with the ordinary initial symptoms of febrile affections, rigors, alternating with flushes of heat, succeeded by restlessness, loss of appetite, thirst, quick, hard and full pulse, hot and dry skin, white furred tongue; excruciating pains are felt in different parts of the body, but more particularly in the joints of the shoulder, hips, knees, ankles and wrists, often shifting from part to part, and sometimes from the joints to the internal organs, as the heart, pleura, bowels, &c. The pain is always worse during the night, but remissions occasionally take place, affording some temporary relief. The fibrous, muscular, and sometimes the serous tissue become the seat of disease.

88 ¶ CAUSES. Suppressed perspiration from sudden atmospheric changes is the most frequent exciting cause of rheumatism. It is on this account that the disease is much more common during the damp, raw, and variable months. There can be no doubt that the disease consists in some peculiar morbid condition of the system in its very organization, and that previous attacks lay the foundation for its return. The *acute* variety consists in an inflammation generally in the fibrous textures, but I am inclined to believe that the chronic kind depends more on nerve ache, or neuropathia, than ordinary inflammation.

89 ¶ TREATMENT. In full plethoric constitutions it will be advisable to bleed once or twice, though bleeding in general, does less in this disease than in most other inflammatory diseases. Mild purges are useful throughout the course of the disease. Large doses of opium, combined with one grain of ipecac, and one grain of emetic tartar repeated two or three times daily has proved, in the hands of authors, very beneficial, and of late large doses of nitre, frequently repeated have been highly recommended. I have frequently used the *cold dash* with the happiest effects, and I am inclined to the belief that more prompt relief can be afforded by dashing three or four large buckets of cold water all over the body, and wiping it dry, and putting the patient to bed, after which a large dose of Dover's powder should be administered, followed by copious draughts of pleurisy root. This repeated two or three times a day will effect, perhaps, more than any other agent known to the author. The use of the colchicum has been recommended as a valuable remedy. Sweating remedies may be regarded as valuable auxiliaries throughout the whole course of the disease. If the whole system becomes debilitated, quinine should be given in the latter part of the disease; strict attention should be paid to diet, clothing, &c.

90 ¶ CHRONIC FORM. This is unattended by fever, swelling or redness, and the pain often wanders from one part to another, fixing itself by times in almost every joint, muscle, or parts situated between the joints of the system. Some individuals are hardly ever entirely free from pain, others are affected with it only occasionally on the approach of damp and variable

weather. When the disease affects the muscles of the loins, it is called *lumbago*; when the hip, *sciatica*.

91 ¶ TREATMENT. Almost every agent in nature has been used and has had its advocates. Among this multiplicity I shall only mention a few which the profession and the author have tested, and let the balance pass. The sweating and stimulating plan of treatment is here more strongly indicated than in the acute form. The hot infusion of pleurisy root, boneset or chamomile have been used beneficially; also the tincture of myrrh, guaiacum and colchicum, prickly ash bark, in combination with gum, myrrh, and spirits, will occasionally afford much relief, and when it seems to return periodically, quinines should be freely given. Of late the iodine of potassium has been used, and, it is said, cases have yielded which had resisted all other remedies. The internal use of sulphur, and poke berries, are popular remedies for all forms of rheumatic complaints. *External revulsions* are employed with advantage in chronic rheumatism. For this purpose we may employ turpentine, exciting liniments, plasters, ointments, cupping, hot and cold baths, fumigations, frictions, electricity, &c. I have uniformly found that the cold dash, to the part affected, has afforded more relief than any other revelent. It may be remarked, that those revelents which act suddenly and powerfully on the part, often succeed in severe cases of deep-seated pain, after the ordinary revelents have entirely failed. The best protection against the disease, is woollen clothes, worn next the skin, avoiding all partial and irregular exposures, and paying due attention to diet.

BOTANIC DEPARTMENT.

24 ¶ *THE indications* are: to relax the typhus, bring on a revulsive action, and stimulate the whole system to a healthy process.

TREATMENT. Lobelia seed, cohosh, and bitter root, in equal quantities, given steadily in broken doses, so as to produce slight nausea, and occasionally vomiting, together with the vapor bath, aided by sweating remedies, as pleurisy root, boneset, rattle root, &c., applied for some time; whilst at the same time moderate heat, emollient and laxative poultices, plasters, and liniments, applied to the parts most affected, constitute the general outline of the treatment. This plan must be vigorously persisted in, until the fibro-serous strictures are relaxed, and the fluids invited to other parts. The chronic form requires the same treatment. Where it is seated in a part or structure, it is best to apply a large poultice of cayenne and vinegar, as warm as can be borne. Burgundy pitch, sprinkled over with cayenne, and applied to the painful part, will often relieve the patient. When the patient is debilitated, number six, in combination with prickly ash bark, will often prove highly serviceable.

SECTION IV.

GOUT.

92 ¶ GOUT is a constitutional disease, resembling, in many particulars, rheumatism, occurring chiefly in the spring and beginning of winter. The attacks are much confined to the male sex, particularly those of a corpulent habit and robust body, seldom appearing earlier than thirty or forty years of age, at first an attack of *podagro* occurs, perhaps only once in two or three years, it then, probably, comes on every year, and at length it becomes more frequent, and is more severe and of longer duration. In the progress of the disease, various parts of the body are affected, and translations take place from one joint or limb to another, and after frequent attacks, the joints lose their strength and flexibility, and become so stiff as to be deprived of all motion. The duration of the first paroxysm is seldom less than five or more than nine days, but in subsequent attacks it is often protracted beyond the second or to the end of the third week. There are several varieties of this disease, but the author makes no divisions, or subdivisions, which have not a practical bearing.

93 ¶ SYMPTOMS. This painful disease is ushered in by flatulency, indigestion, fever, pains in the joints of the hands and feet, particularly in that of the great toe, returning by paroxysms. Sometimes the forming stage is slow, at other times it comes on suddenly.

The torturing pains in the inflamed joints, are often great. The bodily powers are much disturbed, the functions greatly changed, and the mind extremely irritable.

94 ¶ CAUSES. The predisposition to the disease is laid in the organization. The disease has been conceived to consist in two elements—the one, inflammatory, and seated in the fibrous tissues, the other, more general, and seated in the blood, which is modified in its character by the presence of *uric acid*, deposited around the articulations. The exciting cause undoubtedly consists in too great indulgence in nutritious aliment, and wine, associated with insufficient exercise. Age, too, has an influence on the development of this peculiar predisposition.

95 ¶ TREATMENT. General bleeding in this disease, as in rheumatism, does not afford relief. Our reliance is principally confined to a mild, farinaceous diet, perfect quietude, gentle purges, large and repeated doses of opium and colchicum. The tincture of iodine, of late, has been highly extolled, in this disease. The use of soda, tonic bitters, and the alkaline earths have all been given with advantage. The local remedies consist in bathing the affected part in warm water, camphorated spirits, and then applying a simple plaster, on which three or four grains of morphine are to be dusted; some are strongly in favor of the cold dash to the affected part. It must be remembered that whatever disorders the stomach, may lay the foundation of a gouty paroxysm, and hence, all aliments which disagree, by their quantity or quality, must be carefully

avoided, regular exercise on foot, warm clothing, free air, and perfect temperance, should always be strictly observed.

BOTANIC DEPARTMENT.

25 ¶ THE *indications* and *treatment* consist in such remedies as relax the part affected, and give tone and action to the general system. The vapor bath, aided by diffusive stimulants, constitute the basis of treatment. A large poultice of hops applied to the affected part will prove useful. Also, much benefit may be derived from a poultice of lobelia. The stomach should be freely evacuated by emetics, after which, the cold infusion of wild cherry bark may be taken daily, until the system regains its strength: strict temperance should be observed throughout the disease.

PART II.

CHAPTER I.—SECTION I.

INFLAMMATIONS.

96 ¶ INFLAMMATORY AFFECTIONS occur in all climates, and are peculiar to all ages, temperaments,

and conditions of the body; and every organ and structure of the system is more or less liable to it: and, next to fever, this is the most important subject of inquiry, in the whole extent of medical science. It is highly probable that the impression of every morbid cause, or mechanical agent, on whatever part of the animal system it is primarily made, is, in the first place, reflected upon some particular organ, according to the nature and potency of the impression, and the predisposition, or organic susceptibility of the various parts of the system. If this be correct, it is manifest that, if the morbid impression, or mechanical agent, thus reflected or spent upon an organ or structure, be too weak to establish a sufficient degree of irritation to excite general febrile reaction, or derangement, the result will be only a slight degree of irritation, local inflammation, or insulated functional derangement. Thus we see the only difference between local and general fever is, in the extent of the excitement. Whatever be the organ, structure, or texture attacked by inflammation, the *causes* are very much the same, and the *symptoms, terminations, and treatment*, therefore, will constitute its fundamental doctrine, and this chapter will be devoted to their consideration. When any part of the body, which is obvious to our senses, becomes inflamed, such as the skin, the tonsil, the eye; there are strictly *four* essential alterations from the healthy state of the part which become manifest, viz: *pain, heat, redness, and swelling*. It is not any one of these symptoms singly, but their combination, which marks the existence of inflammation, for the stomach may be painful from distension—the skin may be hot from fever—the cheek may be red from blushing—the breast may be swelled from an

accumulation of milk—yet, in none of these cases is there inflammation.

97 ¶ 1st. *Pain*, to a certain degree, attends every deviation from health. It arises from spasms, fatigue, distention, or irritation. The character of the pain is modified by the nature of the inflamed part, and the similarity of pain often leads us to the nature of the disease. In the mucous membrane the pain is burning or stinging—in the pleura it is acute and lancinating—in the ligaments or fibrous structures, it is dull, aching, and growing; and, in the nervous, rapid, darting, and excruciating.

2nd. *Increased heat*, is another characteristic of inflammation. It can never exceed that of the blood at the heart, and it seems to depend on an altered state of the sensibility of the nerves, implicated in the inflammation.

3rd. *Increased redness*, if permanent, is nearly decisive of the existence of inflammation. It is owing to the passage of red blood into the enlarged vessels of the inflamed part.

4th. *Swelling* is always more or less present in the soft textures, and generally the less swelling the more pain. It appears to depend on effusion of serum into the surrounding parts. Such are the signs of inflammation, and its internal presence is judged of in *two* ways—by *local* and *constitutional* symptoms.

98 ¶ 1st. The local symptoms are, *pain*, increased by pressure and functional disturbance: 2nd, the constitutional by fever and buffiness of blood. Inflammations may vary in degree from the slight reaction which

attends catarrh, to the highest grade of inflammatory fever, or inflammation of the brain. Hence they occur under *two* principal varieties, in relation to the rapidity of its progress, and the violence of its phenomena, viz: *acute* and *chronic*. The former is rapid in its course, and violent both in its local and symptomatic phenomena. The latter is generally, though not always the consequence of the former, and is characterized by a slow progress, and much less intensity in all its symptoms. It differs also in kind; it may be inflammatory, typhoid, hectic, or remitting. There is what is called the *predisposing* and *exciting* causes. The former may be a full habit of body; great vigor of system; a plethoric state of vessels and tension of fibre. The latter may be produced—

1st. By the *direct* operation of mechanical and chemical irritants, on the animal structure, as wounds, bruises, burns, blisters, caustics, or lesions, upon any part of the system, &c.

99 ¶ 2nd. By the *indirect* operation of irritants, through the medium of the nervous system, thus, acids in the stomach, worms, teething, calculus, poisons, obstructions in any of the secreting or excreting passages or pores, will occasionally give rise to inflammations. *Cold*, is, perhaps, the most important of all the exciting causes of internal inflammations, as in rheumatism, pleurisy; and translation of disease from one organ or structure to another, is often another cause. Whatever may be the *remote* exciting cause of inflammation, it is probable that the following changes are effected in the progress of its evolution.

100 ¶ 1st. Irritation, or a certain inordinate or hurtful impression on the nervous filaments of the part by which a new and irregular excitement is produced in them.

2nd. *Attraction of the vital properties* of the capillaries of the part thus irritated or disturbed by the unnatural impression, &c.

3rd. An afflux, or determination of the blood to these capillaries, (*Bichat.*) These changes often succeed each other so rapidly that they seem to occur instantaneously. It is highly probable that, in an inflammation, the parts are in a state of irritation, accompanied by an *increased* and sometimes *decreased* power of action, corresponding with the different types of fever. The mucous, serous, cellular, and dermoid structures, being peculiarly vascular, are much more frequently affected with inflammation than the osseous, cartilaginous, and tendinous structures.

101 ¶ 1st. The *terminations* of inflammation next claim our attention. It is said to have terminated in *resolution*, when it declines and disappears without having induced any structural lesion, or perceptible discharge. It consists in a gradual return of the vital properties of the inflamed parts, to their natural condition in *incised* wounds, forms what is called *adhesion*.

2nd. *Effusion* is another termination of inflammation. The fluid effused may be either blood, lymph, or serum. The lymph thus effused in the declension of inflammation from the serous membranes, often forms a bond of union, and causes firm adhesion between them, when contiguous to each other.

3rd. *Suppuration* is one of the modes in which

inflammation is wont to terminate. The fluid elaborated by this morbid action consists of a whitish appearance, denominated *pus*; and when it is retained in a circumscribed cyst or cavity, it constitutes an *abscess*.

4th. *Gangrene* is also another termination of inflammation, more especially the mucous, cellular, and serous tissues being most prone to it—it often passes on to complete *mortification*. An *erysipitatus* inflammation is attended with a burning pain, and spreads irregularly over the surface of the skin, forming blisters containing a transparent serum, and never forms adhesions, nor suppurates in circumscribed cavities. Such are the most common terminations of this species of inflammation, but a fifth has been noticed which is exhibited in a *scirrhus* tumor, after a time it ulcerates and becomes a *cancerous* affection.

102 ¶ GENERAL TREATMENT. The general principles of treatment in inflammation admit of being laid down with some degree of accuracy, but they are of course varied by many circumstances, among which the most important are, the period or stage of the disease, the habit of body, the exciting cause, and the structure of the part inflamed. The *indications* of cure, are,—

- 1st. To unload the vessels.
- 2nd. To lessen the force of the heart's action.
- 3rd. To excite the vessels to more healthy action.
- 4th. To alter, if possible, the inflammatory condition of the blood itself.

These *indications* are to be fulfilled by the nicely regulated employment of general and local blood-letting. Bleeding from the arm in a full stream rapidly, and in an erect posture, that faintness may take place suddenly,

without the loss of much blood. Cupping glasses, or leeches, should be applied to the part. The depletions will be more effectual if aided by the injections of tobacco, but more especially by purges with saline cathartics, and using cooling refrigerent medicines, local applications of cold, occasionally; also, blisters, and warm fomentations, and, in few cases, by stimulants and tonics. Inflammations occurring in the weakened habits are, in many cases, more effectually relieved by the local abstraction of blood, by blisters, and such other means as lessen the action of the part, without impairing that strength of the general system, which is so indispensable for the repairing of the injury. The choice of the particular means best adapted to the different inflammatory affections of the body will be a principal object of enquiry hereafter.

BOTANIC DEPARTMENT.

26 ¶ WHEN the vital action is concentrated upon a small part, for the purpose of removing obstructions, it is called *local fever* or *inflammation*. "As the circulating and the nervous action of the animal frame are the only ones that are ever diffused through it, it follows of course, that the derangement of one of these or both, will constitute nearly all the symptoms of disease. The circulating and the nervous symptoms will be prominent in all acute and violent forms of disease. The excitation of the nerves is produced by the vital principle, and by the circulation; and that of the *blood*

vessels is produced by the nerves; therefore, when the circulation is determined upon a sensitive part of the body, the result is, that more or less pain is produced, which is the sensation felt by the nervous system in consequence of the opposition of the diseased conditions to the circulatory and the nervous equilibrium. As there can be no inflammation without irritation, and no suppuration without destruction of vitality: and, as there can be no paralysis without a suspension of the nervous action; it therefore follows, of course, that, to equalize the circulation and the nervous action, and to maintain that equilibrium, is to cure all forms of inflammations."

27 ¶ The *indications* of cure, then, are: 1st, to relax the general system, and attract the action from the part affected, and distribute it over the whole body: and 2nd, to maintain that action until an equilibrium is effected.

TREATMENT. The means by which this can be effected, are found, by long and successful experience, to consist in *warmth* and *moisture*, combined with relaxing medicines, as the warm and vapor bath, lobelia, sage, balm, and mint, to which may sometimes be added small portions of tannin, as bayberry, sumach, hemlock, &c. Injections of lobelia, at the same time it is taken by the mouth, will certainly contribute greatly to the reduction of inflammation. The parts should be frequently bathed in relaxing articles; poultices, plasters, and liniments, may also be applied to the neighboring parts.

CHAPTER II.—SECTION I.

DISEASES OF THE BRAIN.

103 ¶ THE *brain* is that large, round viscus, situated within the skull, and surrounded by *three* membranes, and is divided into the greater and lesser portions. It is the essential instrument of vital associations, vital endowments, and therefore, present in every body possessed of life. From it proceeds the spinal marrow, and *nine* pair of nerves, the true and proper conductors of sensation. In man, all the nerves of the body may be divided into *three* classes: 1st, the cerebral, or sentient and voluntary: 2nd, the true spinal, or excitor and motary: and 3rd, the ganglionic, or the nutrient and secretory. Within the skull, there are no less than three distinct structures, namely, the fibrous, the cerous, and the cerebral, and there is reason to presume that inflammation will be considerably modified according as one or the other of these structures is the principal seat of disease. But it is not probable that any one of the structures within the cranium can suffer inflammation without involving, in some degree, the others, and all attempts therefore, to assign to each structure its peculiar symptoms, under inflammation, must necessarily be attended with considerable uncertainty, therefore we must not attempt to be more nice than wise, and multiply distinctions which have no practical bearing. Nearly all inflammations are combatted upon the same great principles.

INFLAMMATION OF THE BRAIN.

104 ¶ It is called *primary*, when it exists independent of any other disorder, and *symptomatic*, when it arises in consequence of some other disease, as fevers, worms, &c. Inflammation may attack any of the organs within the skull, and it may be acute or chronic. The brain being the organ of sensation and volition of the mental and moral manifestation, all these must be necessarily modified during an attack of inflammation, but the degree to which they are so, is dependent upon the severity and extent, as well as on the character and seat of the disease.

105 ¶ SYMPTOMS. It is characterized by a sense of fulness and pain in the head; redness of the face and eyes; impatience of light and noise; face flushed; watchfulness; strong fever; pulse full; uneasiness along the spine, and sometimes furious delirium, amounting to ungovernable mania. At other times the patient is morose, and unwilling to be disturbed, whilst at others again, the intellect may remain unaffected, in which case it is presumed that the inflammation is deep seated. Sometimes the senses are much disturbed, the presence of light and noise being painful, and the pupils contracted; at other times there is great disorder in the motions, the patient being much agitated with tremors, starting of the tendons, convulsions, and palsies, which are indeed regarded as more certain indications of inflammation, than diseases of the intellect. The nutritive functions are, likewise, greatly deranged,

nausea and vomiting are then generally present, and in its progress the bowels are very much disordered, the respiration is generally more or less difficult.

106 ¶ CAUSES. External violence, blows or falls on the head, producing concussion of the brain, violent passions, sudden influence of cold while the body is in a state of free perspiration—in the progress of general fevers and translation of diseases to the brain, may give rise to the disease.

PROGNOSIS. *Phrenitis*, or inflammation of the brain, may always be regarded as a dangerous and alarming disease—it often proves fatal between the third and seventh day, and if long protracted, is apt to terminate in mania; in children, in effusion or dropsy of the brain.

107 ¶ TREATMENT. “As in other cases of severe internal inflammation, blood-letting, is the sheet-anchor of the practitioner, and it must be pushed so as to produce a decided effect. The effect, rather than the amount of blood taken, should be the guide.” In a few hours, if the disease does not yield, it should be repeated again, and again. Cold may be likewise applied to the head, by means of a bladder half filled with pounded ice; cold effusions on the head, at short intervals, from the spout of a teapot, held above the head at some distance, has also at times, a soothing efficacy. Also, ice may be taken into the mouth and suffered to dissolve slowly. Cupping, or leeching is also valuable; blisters to the nape of the neck, in the latter stage of the disease, and mustard poultices to the feet, are often highly serviceable. Purgatives of

castor oil, and other more active medicines, are often indicated. Stimulating injections may be thrown into the bowels. Nauseating doses of antimonials may likewise be administered with advantage, for the purpose of inducing the action of *sedation*, which nauseants of all kinds excite. The head should be kept raised and cool, the feet warm, and the patient should observe total abstinence, be kept in a dark room, free from noise, and perfectly quiet.

BOTANIC DEPARTMENT.

28 ¶ THE *indications* are: 1st, to equalize vital action and invite the blood downward and outward: and 2nd, to promote the general secretions and excretions.

TREATMENT. The patient's head should be kept cool by water and vinegar, which may be applied by means of wet clothes. The bowels must be kept loose by injections and cathartics, and the lower extremities and bowels warm by stimulating applications and poultices, such as bread and milk sprinkled over with cayenne or mustard. Emetics should be freely given, followed by broken doses of lobelia, bitter root, boneset, or other laxative bitters. The bath should be occasionally applied to the feet and body at the same time the cold applications are used on the head. The alternate and revulsive plan of treatment should be strictly attended to throughout the whole course of the disease. The head should be elevated; the diet should consist of

the mild and vegetable; the mind free from care and anxiety; light and noise excluded; free air allowed, and sufficient nauseating tea of lobelia to relax the system, and bring about an equilibrium of vital action.

CHAPTER III.—SECTION I.

DISEASES OF THE EYES.

108 ¶ *THE eye*, it must be recollected, has *three* coats, and *four* refracting bodies: all these different parts may be variously affected by exciting agents, and each variety may require some modifications of treatment. The simple inflammation of the eyes is attended with pain, redness, intolerance of light and a constant sensation of sand in the eyes. The causes which produce this form of *ophthalmia* or inflammation, are various: it may be produced by irritants of all kinds, external injuries by exposure of the eye to a strong wind, to intense light or heat, or to dust, or extraneous bodies. Little inflammatory tumors called *styes*, often give rise to it. It is sometimes *symptomatic* of other diseases, such as measles, small pox, scrofula, and syphilis.

109 ¶ *TREATMENT.* It need scarcely be said that, this active form of inflammation requires energetic treatment in the first instance; the cause, especially if it be an extraneous body, must, if possible, be removed. Should the inflammation continue after the removal of

the cause, and be at all severe, it will be advisable, as in other inflammations, to diminish the amount of the circulating fluid, by general and local blood-letting; and this may be repeated again and again, according to the urgency of the symptoms. The lancet, cupping, &c., will be the instruments with which to accomplish the first indication. Along with blood-letting, general and topical purges may be employed with great benefit. Also, nauseating doses of antimony or lobelia, will help to induce the action of sedation. With regard to topical applications to the eyes, warm and soothing means are always best. No harsh or irritating ingredients should be put into the eyes. Warm milk and water, flaxseed, or slippery elm infusion, or the pith of sassafras, will answer every purpose. When the inflammation becomes sub-acute, or the active stage has passed away, a weak solution of sugar of lead, and white vitriol, or alum whey, the chloride of mercury or lime, will often prove serviceable. In the last stage much benefit will be derived from blisters or setons behind the ears, &c. Low and cooling diet should be enjoined, and the eyes ought to be kept from the light.

110 ¶ 2nd. *Catarrhal* and *purulent* inflammation of the eyes often supervene on exposure of the eyes to dust, or the irritation from hairs of the eyelids will excite it. It is undoubtedly communicable from one to another. The flow of tears is always much increased, and the purulent discharge is, in some cases, considerable. The lachrymal gland which secretes the tears, afterwards becomes involved in this species of inflammation. Children, soon after birth, are often affected with it. Besides the above named treatment,

to abate the irritation or inflammation and the discharge, we often resort to cooling and astringent washes, applied by means of wet pledgets. Three or four grains of the *nitrate of silver*, to an ounce of water, is undoubtedly the best agent that can be employed. The ointment of the red oxide of mercury may also be used in its official state, or reduced by lard if it should excite irritation. Various stimulating substances have been advised in protracted cases. The alum curd or spirits of turpentine, have been highly advantageous.

3rd. Inflammations of the eyes sometimes assume a strictly periodical or rheumatic form, and are apt to continue a long time. If the constitution is not plethoric, but in a weakened state, tonics, barks, or quinine will generally relieve this form of diseased eyes.

111 ¶ 4th. *Scrofulous* inflammations of the eyes sometimes occur, and occasionally we meet with affected eyes from venereal disease; they are often tedious and hard to cure; they do not usually require the depleting power of the lancet, nor the sedative effects of antimony; but generally tonics, quinine, and tincture of iodine, will do more to relieve scrofulous diseases, than any other agent known to the profession. From ten to twenty drops of the tincture, three or four times, daily, should be used, or what is perhaps better, the *hydriodide of potash*; one or two grains of this salt may be given two or three times, daily, and continued for some time. If the system is laboring under a venereal taint, calomel will greatly aid the reduction of the disease.

BOTANIC DEPARTMENT.

29 ¶ INDICATIONS of cure are: 1st, to ascertain the cause, and, if possible, remove it: 2nd, to equalize the circulation: and, 3rd, to cleanse the morbid surfaces and lessen the calibre of the engorged vessels.

TREATMENT. Having removed the offending cause, if it be mechanical substances, the patient should then use the warm relaxing teas, and injections, for an hour, and then he should go into the vapor bath, and when the system is completely relaxed, the patient should be washed, dressed, and afterwards thoroughly vomited; the eyes cleansed by warm milk and water, and poulticed with slippery elm or lily root, and occasionally washed with lotions of alum curd, alum root, &c. This process should be repeated as the urgency of the case demands. The bowels should be kept loose, and sometimes it will be necessary to apply irritating plasters to the neighboring parts of the eye. In some purulent cases of long standing, a wash made of blood root, chloride of lime, but more especially *harlemensis*, will prove highly serviceable.

CHAPTER IV.—SECTION I.

DISEASES OF THE LIVER.

112 ¶ THE *liver* is the great apparatus for the secretion of bile. It is situated in the right side, near the edge of the ribs, and more or less in the left. It receives two kinds of blood, one kind for nutrition, and the other for secretion of bile: like other organs it is subject to acute and chronic inflammation: the acute form is certainly an uncommon disease in temperate regions.

INFLAMMATION OF THE LIVER.

SYMPTOMS. The chronic form commences with a dull heavy pain in the right side, increased by pressure in lying on the left side; functional derangement of the digestive organs or biliary ducts; dyspeptic state of the system, irregular appetite, impaired powers of digestion, acidity, flatulency, slight colic pains, occasional nausea and vomiting, and a sense of fullness in the region of the stomach. The white of the eyes and skin become tinged with a yellowish hue, and the countenance acquires a contracted and sickly aspect: the bowels are always very irregular, costiveness being most common, alternating, in some instances, with diarrhœa, the discharges being frequent, scanty, slimy, and watery, skin dry, a slight dry cough, with difficulty of breathing, emaciation; slight febrile exacerbations come on towards evening, attended with a burning heat

in the palms of the hands and soles of the feet, with restlessness during the night. The pain attending this disease is apt to extend itself to parts remote from this organ, more especially to the breast, and to the shoulder of the right and sometimes the left side. In acute cases these symptoms are generally aggravated.

113 ¶ CAUSES. Sudden influence of cold and damp air, and errors in diet. From the great frequency of chronic affections of the liver, in the warm and miasmatic situations, there can exist but little doubt that the slow and continued operation of marsh miasmata, is a principal cause of this affection: these emanations possess great power in deranging the biliary functions.

114 ¶ TREATMENT. In some few cases the lancet ought to be used, but as a general rule it is not indicated. Mild and unirritating purges will be frequently useful. The diet must be carefully regulated, cupping, blistering, and rubbing in the tartar emetic ointment on the region of the liver, will prove highly serviceable. Whenever the inflammatory action is first arrested and subdued, it will be best to combat the farther progress of the disease by mercury or the blue pill, which may be administered either internally or by way of friction, until the effects of the remedy become perceptible on the mouth, aided by the use of antimonials. As a substitute for mercury in these cases, the external and internal use of the "nitro-muriatic acid bath" has been strongly recommended to the profession as a remedy in this variety of *hepatitis* or inflammation of the liver, bathing the feet, or sponging the region of the liver with it. The form usually advised is as follows:

“Take of strong nitric and muriatic acids, of each four ounces, add to these eight ounces of water; of this mixture, take from two to five ounces and dilute with three gallons of warm water. When this is used in the form of a bath to the feet, the patient should keep his feet in it twenty minutes or half an hour. If the bath be of proper strength it will cause a prickling sensation in the skin; should it not do so an ounce or more of the acid mixture should be added to it.”

This bath should be used warm once or twice daily, for some time. The same bath will remain good four or five days—I have long used, with decided benefit, the composition recommended in the 13th paragraph of Eastman’s Treatise. The dandelion has become a very popular remedy in this disease, when connected with a deranged state of the digestive organs. Two ounces of the fresh root, or an ounce of the dried, previously bruised or sliced, may be boiled in a pint of water down to half a pint, and two fluid ounces of the preparation may be given twice or thrice daily. Lemonade forms an agreeable and proper drink—moderate exercise may be allowed—change of air, scenery and society, are, unquestionably, advantageous in long protracted cases.

BOTANIC DEPARTMENT.

30 ¶ *THE indications* of treatment are: 1st, to relax the general system: 2nd, to remove the morbid obstructions: and, 3rd, to maintain an action

on the surface, and invite the circulation to the extremities.

TREATMENT. A *course* of medicine should be given, followed by relaxing pills of lobelia, black root, and stimulating injections; the bowels may be kept freely open with the tomato or vegetable pills; the skin should be kept moist by teas of pleurisy root, snake root, and boneset, during the intermission of the bath. If the cough should be considerable, the cold infusion of wild cherry bark should be freely given; a large plaster of sweet gum wax should be put on the region of the liver, and worn constantly, until the liver returns to a healthy state. The bath, the tomato pills, the sweating teas, the external applications, and the alterative plan should be continued until all obstructions are removed, and the healthy function of the liver be completely established.

SECTION II.

JAUNDICE.

115 ¶ **THIS** is generally, indeed, *symptomatic* of many of the diseases of the biliary apparatus, and consists in a disordered state of the liver, and is characterized by yellowness of the skin and eyes, clay colored stools, bilious urine, and generally by a languid state of the circulation.

SYMPTOMS. Langor, disinclination to bodily and mental exertion, irritable and dejected temper, loss of

appetite, constipation, acid eructations, slow and painful digestion, dyspeptic state of the stomach, nausea, and sometimes vomiting, furred and yellow tongue; sometimes chilliness, and slight febrile exacerbations take place in the evening.

CAUSES. These are very numerous. Any thing that obstructs or prevents the flow of bile from the liver into the intestines, may give rise to this disease. Blows, tumors, inflammation in the stomach and bowels, mental emotions, &c., may be mentioned as frequent causes.

116 ¶ TREATMENT. Where it is slight, rest, gentle purges, moderate diet, and the use of lemonade, may be all that is demanded. If fever exists with manifest signs of inflammatory action of the lining membrane of the stomach, bowels, or liver, cupping, blistering, purges, and the whole plan for reducing inflammatory action should be used. It frequently follows children from the third to the seventh day, and often both causing drowsiness and a yellowish state of the skin, mild purges of rhubarb or castor oil will generally soon relieve it.

BOTANIC DEPARTMENT.

31 ¶ THE prominent *indications* are: 1st, to remove the morbid obstructions: and, 2nd, to promote healthy secretions and excretions.

TREATMENT. The vapor bath, relaxant teas, and laxative bitters should be faithfully administered. The

vegetable pills should be repeated often enough to carry off the morbid secretions, and establish a healthy action in the bowels. The best diuretic and tonic bitters must be substituted in the room of the more laxative, in the latter part of the disease, and continued until the system regains its healthy action.

CHAPTER V.—SECTION I.

DISEASES OF THE LUNGS.

117 ¶ THE *lungs* are two spongy bodies situated in the chest, by means of which we breathe. The *trachea*, or air tube, which extends from the nostrils to the lungs, divides, penetrates, and ramifies throughout this substance, forming the bronchial tubes or air cells, for the purpose of respiration. The diseases of the respiratory organs are of great interest to the physician. The delicate organization of the lungs, their state of constant action, and their being exposed to the contact of air of different temperatures, and which contains various extensive matters suspended in it, render them especially liable to diseases, and those of a most serious character. Within the cavity of the chest are situated *three* structures: 1st. The pleura or membrane which surround the lungs: 2nd. The bronchial tubes or air cells: And, 3rd, the proper substance of the lungs which are each liable to disease. Inflammation of the chest or lungs is characterized in all its various forms,

by the combination of the four following symptoms: fever, pain in the side, difficulty of breathing, and cough.

118 ¶ 1st. PLEURISY. The symptoms are, a violent and pungent pain is felt in the chest, generally on one side, highly aggravated on full inspiration or on coughing. The respiration is short, hurried, and generally most oppressed when lying on the afflicted side. The cough is short and dry, and is stifled as much as possible to avoid the great increase of pain which it occasions. The accompanying fever is urgent, the face is usually suffused with a vivid flush, the pulse frequent, strong, and hard, thirst, restlessness, hot and dry skin, tongue covered with a thick white fur.

119 ¶ 2nd. BRONCHITIS. The symptoms which denote an inflammation of the bronchial tubes or *cattarrh*, are the following, a sense of tightness or constriction about the chest, pit of the stomach, or very unequivocally to the precise seat of the disease. There is cough, which from the first, is attended with some degree of expectoration, respiration is hurried, and accompanied by a wheezing in the throat. The general febrile symptoms are severe, the pulse frequent, but generally not as full and hard as in pleurisy. In the progress of the disease, authors have noticed that, occasionally, at a particular period, the constitutional symptoms are suddenly converted from those of high inflammatory action into such as indicate extreme debility or exhaustion.

120 ¶ 3rd. Inflammation of the substance of the lungs is known by fever, cough more or less mixed with blood, oppressed breathing; obtuse pain is felt in the chest, side, or near the shoulder; skin hot and dry; pulse frequent, full, obstructed, not hard; countenance acquires a livid aspect; the sputa are very tenacious, ropy, white, yellow, or greenish, and intermixed with bubbles of air. Sometimes peripneumonia is very insidious, and its approach so little disturbs the constitution as not to be suspected until it has laid the foundation for a fatal disorganization.

121 ¶ CAUSES. This disease is most apt to attack persons of a vigorous or plethoric habit of body, in every station, period, and circumstance in life. The influence of cold when the body is in a state of perspiration from exercise, or confinement in a heated room, is the most exciting cause: it often comes on in consequence of other diseases, such as measles, small pox, whooping cough, rheumatism, &c.

PROGNOSIS. The pleuritic variety is generally attended with little danger, whilst the bronchial form is more dangerous, but is less frequent than the other. When the inflammation extends to the substance of the lungs, the patient may sink at an early period, from effusion into its structure, or disorganization of its function.

122 ¶ TREATMENT. There is no inflammatory affection which is more under the control of blood-letting, and a strict antiphlogistic treatment than this disease.

1st. Bleeding should be practiced very early in

the disease, and drawn largely and rapidly from a large orifice, and, when repeated, it should be early attended to. It should be borne in mind that one or two large bleedings will do more to curb the inflammatory excitement than half a dozen small ones: weakly habits, old persons, and infants, will not bear the loss of much blood, or sufficient to subdue a severe attack.

2nd. Small doses of tartar emetic, in combination with paregoric, frequently repeated, so as to slightly nauseate the stomach, is a powerful agent to subdue the inflammatory excitement; mild purges are also necessary, cupping and blistering are highly useful after the general and depletory process has been attended to—emollient and narcotic plasters may be applied to the chest and feet. Throughout the whole course of the disease, mucilaginous or gummy drinks may be allowed; perfect quietude and an equable temperature should be strictly enjoined.

BOTANIC DEPARTMENT.

32 ¶ THE principal *indications* consist: in 1st, relaxing the system and removing obstructions: 2nd, restoring and maintaining an equilibrium of vital action.

TREATMENT. Most cases will yield by giving the aromatic teas, as catnip, balm, sage, &c., in combination with one or two relaxing injections, and the vapor bath; in severe cases, however, it will require broken doses of lobelia, the alterative, relaxing, and sweating teas, strong external poultices or plasters to the region of the

chest, the pleurisy root, boneset, or golden seal, should be given freely to keep up a moisture on the skin. The bowels should be kept loose with suitable cathartics. Ground mustard mixed with corn meal forms an excellent external application. Mucilage of slippery elm, flax seed, or gum arabic, may be used as drinks. If the cough is considerable, the bath should be medicated with aromatic stimulants and expectorants, put into the reservoir for that purpose.

SECTION II.

PULMONARY CONSUMPTION.

123 ¶ THERE is no disease which is more deeply interesting to the physician, affecting, as it does, the young and the promising, and being so fatal when once it has become fully established. It is an old estimate that one-ninth part of the whole number of deaths, is from consumption; but in the United States, the estimate is between one-sixth and one-seventh. For practical purposes consumption may be divided into two varieties: 1st, *catarrhal*: 2nd, *tubercular*.

1st:—CATARRHAL CONSUMPTION.

124 ¶ At first the symptoms resemble those of ordinary catarrh, the expectoration being thick, lumpy, and of a firm greyish mucus which sinks in water. As the disease advances, this viscid mucus resembles pus,

and is often slightly streaked with blood. At first the pulse becomes slightly increased and hard towards evening, and the heat of the surface varies in the course of the day, being sometimes above, and at others below, the natural standard. Partial sweats about the head and breast occur during the night; thirst, increased soreness in the chest, cough usually severe, particularly on rising out of bed in the morning, and the discharge is usually copious and purulent. As the disease still progresses, debility and emaciation proceed rapidly, difficulty of breathing, weight and tightness across the chest, become more and more distressing; pulse frequent, being one hundred and twenty in a minute; profuse and exhausting night sweats come on towards the termination of fatal cases, colliquative diarrhœa, sweating of the feet and ankles supervene. Sometimes this catarrhal variety is complicated with a disease of the liver, forming, what is called, "*dyspeptic consumption.*" In this variety there is tenderness in the right side, irregularity of the bowels, indigestion, occasional nausea and vomiting, difficulty of breathing, cough after taking hearty meals.

2ND:—TUBERCULAR CONSUMPTION.

125 ¶ This is a most fatal and ungovernable form of consumption. Tubercular consumption probably never occurs, except in individuals who are hereditarily predisposed to it. Whenever this scrofulous habit, or constitutional peculiarity, exists, very slight causes will excite the disease and give rise to the deposition of tuberculous matter into the substance of the lungs. In this variety the lips are red, and the cheeks are more

constantly flushed, the cough is for a long time short and dry, and the hectic fever is more regular in the tubercular than in the catarrhal form. It should be remarked, however, that these two forms of pulmonary disease may exist simultaneously. *Phthisis pulmonalis*, is, in fact, not unfrequently associated with the catarrhal variety in its advanced periods.

126 ¶ CAUSES. The catarrhal variety may be caused by neglected colds, or it may arise from irritating vapors, or particles of matter floating through the atmosphere; thus miners, stone cutters, needle grinders, are especially liable to it, or it may be the sequel of measles, whooping cough, or inflammation of the bronchial tubes.

The tubercular kind may be easily sprung into action when a person is of a scrofulous habit, long neck, prominent shoulders, narrow chest, clear skin, fair hair, delicate rosy complexion, thick upper lip, weak voice, great sensibility. All persons of this peculiar cast, should be extremely careful about irregularities and exposures of all kinds.

127 ¶ TREATMENT. The treatment consists in external and internal remedies. The internal agents consist mostly of emetics and expectorants; occasional doses of ipecac and tartar emetic in combination, so as to enable the patient to throw off the viscid accumulation from the stomach and lungs, will be highly useful throughout the whole course of the disease; two or three a week will generally be sufficient. For the purpose of curbing the inflammatory excitement and determining to the skin, the following mixture should be

daily given in sufficient quantity to nauseate the stomach slightly. Combine one ounce of paregoric, one ounce tincture of digitalis, and six or eight grains of tartar emetic. Of this, from a fourth to a half teaspoonful may be given every two or three hours during the day; sometimes it is best to combine the tincture of squills with the above preparation. Much benefit may be derived from a strong syrup made of spigner, butterfly root, and a few grains of tartar emetic added to it and taken daily. The constant use of the cold infusion of wild cherry bark will afford much relief, as it contains a large amount of prussic acid. The syrup of *naphtha* may be regarded as a valuable agent for the cure of pulmonary consumption. The balsam of copavia and other balsams have occasionally afforded palliation.

128 ¶ As substances can be readily made to come in contact with the whole of the air tubes, along the air of inspiration, inhalations naturally suggest themselves in the treatment of consumption. The fumigations with resinous and balsamic substances with tar, have been considerably used; chlorine or iodine may be inhaled from a common dish, or inhaling apparatus, by dropping any of the acids on a mixture of chloride of lime; the inhalations may be repeated two or three times a day.

Among the most important external remedies we possess in the early periods of consumption, are, such as operate through the medium of the skin, or such as establish a regular determination to the external surface of the body. Blisters, *issues* or *setons*, can never be properly omitted in incipient consumption. Tartar

emetic ointment combined with iodide of potassium, should be frequently rubbed in on the chest. When the pustules are formed, emollient plasters or poultices should be applied over them, and renewed two or three times daily, until they are healed. Croton oil, turpentine, or liniment of cantharides may sometimes be substituted for the above counter irritants:—home practitioners prefer a burgundy pitch plaster or a strong solution of salt, brandy, and cayenne, as a revellent to the chest. Let it be remembered that counter irritants should be constantly used. To check the profuse and exhausting night sweats, which occur in the advanced periods of the disease, the sugar of lead and opium will prove very effectual.

Unquestionably, however, the most efficient of all the means for counteracting the tendency of consumption, or arresting its development or progress, is, to wear warm clothing, flannel, next to the skin, adopt a mild and unirritating diet, as milk, and the various farinaceous aliments; use mucilaginous drinks; avoid cold and damp atmosphere, and keep the system in an equable temperature; take moderate exercise in the open air; go a sea voyage in the summer, and remove to and reside in a mild, genial, uniform, and salubrious climate.

BOTANIC DEPARTMENT.

33 ¶ THE most prominent *indications* consist: 1st, in removing morbid matter or mucus, that may be col-

lected in the bronchial tubes or lungs: 2nd, in inviting the accumulated vital action to the internal surfaces and lower extremities, and preventing the development of the disease.

TREATMENT. Where the disease is acute, attended with fever, pain, and constant dry cough, an injection, the antispasmodic expectorant drinks, and the vapor bath, followed by emetics, frictions on the surface, hot water to the feet, and plasters applied to the chest. In chronic cases the bath should be medicated with soothing expectorants, in order to clear the lungs of morbid matter. The cough drops of spikenard, comphrey, elecampane, and lobelia, will be highly serviceable. If there is much pain in the side, bottles of hot water and stimulating plasters may be applied to the breast. The sweet gum forms the best kind of plasters to be worn constantly on the chest: also, pills of the same may be taken several times daily. Much benefit may be derived by drawing in a full inspiration to distend the collapsed tubes. The cold infusion of wild cherry bark tends much to lessen the irritation and strengthen the debilitated system. The wood or tar *naphtha*, may be regarded as useful.

34 ¶ The bath, emetics, expectorants, and the external applications, will have to be repeated occasionally as the urgency of the case and the strength of the patient demand. Change of air, diet, society, country, and scenery, will contribute much to the relief of long standing and chronic cases.

I have written out, in few words, the sheet-anchor of our hopes, and I am of the opinion that, many pine away and die, *who might be cured*, if it were not for

the prevailing opinion that consumption is incurable. Instead of resorting to timely administration at the onset of the disease, and persevering in the use of the best means, it is customary for his friends to say—"he's got the consumption—it's no use to doctor—he can't be cured."

SECTION III.

ASTHMA OR PHTHISIC.

129 ¶ **ASTHMA** is a paroxysmal affection of the respiratory organs, characterized by great difficulty of breathing, tightness across the breast, and a sense of impending suffocation, without fever or local inflammation. This disease is not common before maturity. It seems to attack men more frequently than women. Sometimes the fits return at pretty regular periods, and it is very difficult to obviate these attacks when once they have occurred.

130 ¶ **SYMPTOMS.** The paroxysms usually commence at night, the patient is seized with great anxiety, wheezing, coughing, gasping, and suffocating for fresh air. The countenance is expressive of intense anxiety and distress; the heart generally palpitates violently, and the patient is wholly unable to remain in the recumbent posture; the pulse is irregular; the face is bloated and livid, or pale; sometimes the body is covered with a cold and copious perspiration, and the

stomach is often much disturbed: after a while there is a remission, and then an exacerbation, and so on, for three or four days, and, generally, the disease then subsides for a time.

CAUSES. It is generally admitted that, a predisposition to the affection is mostly hereditary; atmospheric variations, smoke, dust, irritating gasses, metallic and other particles floating in the air, unquestionably act as exciting causes. Peculiar locations affect some asthmatics very much; generally a cold dry air suits the patient best.

131 ¶ TREATMENT. The principal *indications* of cure during the paroxysm, are, to diminish the pulmonary congestion, and especially to relax the spasms of the bronchial tubes or air cells. When the patient is plethoric and vigorous, the pulse active, and the countenance livid, it will be proper to bleed during the paroxysm: nauseating emetics are of considerable service, not only by promoting perspiration and expectoration, but also by their relaxing and antispasmodic power. Tartar emetics, ipecac, and lobelia, are among the best. The lobelia undoubtedly is the most certain and valuable remedy we possess in this affection, not only during the fits, but also during the intermission. Opium, colchicum, strichnia, and squills, have been administered in asthma with much apparent benefit. Smoking may be regarded as very beneficial in this disease, though fashion, that fell destroyer of the human race, has induced boys, and even girls, to practice this abominable custom, without assigning any reason for its habitual use. Galvanism is a remedy which has been extolled, and whose operation must be esteemed essentially bene-

ficial. The diet should be properly regulated, so that excess in eating and drinking be avoided; regular and moderate exercise must be taken daily; vicissitudes of temperature be guarded against; appropriate clothing and flannel be always worn next the skin.

BOTANIC DEPARTMENT.

35 ¶ *THE indications* of cure are the same as in the 7th paragraph.

TREATMENT. The vapor bath, in combination with lobelia, cayenne, and nervine, in broken doses frequently repeated until the viscid mucus is attenuated, loosened, and detached from the pulmonary vessels, after which free vomiting should be promoted. It will still be necessary to continue the lobelia, skunk cabbage, and nervine, in small doses, until relief is fully established. If the paroxysm is severe, the patient may inhale the vapor from aromatic herbs, lobelia, rattle root, &c. A valuable remedy may be formed from rattle root, skunk cabbage, and a small portion of lobelia, which should be constantly used for a time. The bowels should be kept free by injections, cathartics, &c. When the paroxysms are broken up, the system may be supported by stimulants and tonics.

CHAPTER VI.—SECTION I.

DISEASES OF THE STOMACH.

132 ¶ THE *stomach* is that round oblong membranous receptacle which receives the food from the gullet. Exposed as it is to the contact of various irritants, and the great sympathy that exists between it and other organs, lays it especially liable to much disturbance and a long list of painful diseases.

INFLAMMATION OF THE STOMACH.

133 ¶ SYMPTOMS. After the ordinary evidence of internal inflammation, shivering, followed by heat of skin, languor and lassitude, a severe pain (in the acute variety,) is experienced at the lower end of the breast bone, which extends to the back, along the gullet, so as to be felt between the shoulders. The pain is increased by pressure, inspiration, or by taking liquid or solid aliment into the stomach. The patient complains of nausea, retching, vomiting, purgent and burning heat, unquenchable thirst, fever, tongue white in the centre, and red at the edges, pulse small, tense, and quick, depression of spirits, altered voice, and sometimes a short and painful cough.

134 ¶ CAUSES. The causes of *gastritis* are, irritating, corrosive or acrid poisons or substances received into the stomach, mechanical injuries, stimulating drinks

and cold water rapidly swallowed when the body is heated, &c.

DIAGNOSIS. Inflammation may be readily distinguished from cramp or flatulent pains, by the following characteristics: In spasm the pain often intermits wholly for several minutes; vomiting rarely takes place; the patient sets up or walks about with the body bent forward, or throws himself about on the bed, and pressure generally affords some relief from the violence of the pain. In inflammation the pain and vomiting are mostly constant; the patient lies on his back; moves as little as possible; pressure increases the pain; stomach hot and dry, and the pain is burning, and lancinating.

135 ¶ TREATMENT. An active sedative treatment must be employed, the smallness of the pulse must not deter the practitioner from the prompt and free use of the lancet. After the amount of the circulating fluid has been reduced sufficiently in this manner, leeches or cupping must be attended to. A large emollient poultice or a blister may be applied over the region of the stomach. The vomiting may be allayed by ice-cold soda water. Emollient and cold injections may be used to move the bowels. Opium may be freely given in combination with the most bland and mucilaginous drinks. If poisons have been received into the stomach they must be removed by titillating the fauces so as to cause vomiting, or by the stomach tube or pump. During convalescence the greatest caution as to diet must be inculcated.

BOTANIC DEPARTMENT.

36 ¶ THE *indications* are: 1st, to distribute vital action and determine to the surface: and, 2nd, to soothe the irritated parts and invite the circulation to the extremities.

TREATMENT. Injections of a purgative kind may be given, and then the vapor bath may be administered. The diet and drinks must be of the most simple and unirritating quality, as slippery elm, starch, rice, arrow root, gum arabic, &c. External irritants, plasters and poultices should be constantly applied. The mild soothing teas must be used and repeated with the vapor bath as often as circumstances require. Great exertions should be made to create and sustain an action on the extremities and adjacent parts. Whenever it becomes necessary to move the stomach by purges, the castor oil will answer for that purpose. It should be remembered that, purges do not answer the same purpose in this disease as in most other forms of inflammation: our reliance should mostly consist in injections, emollient poultices, the bath, and unirritating and cooling drinks.

SECTION II.

DYSPEPSIA.

136 ¶ **DYSPEPSIA** literally means "difficult digestion," or, "indigestion." It occurs in many diseases, and so frequent and serious are its consequences upon the health and happiness of man, that it has the strongest claim upon the attention and sympathy of the physician. The habitual dyspeptic is indeed truly a miserable and despondent being—his anxious and sallow countenance—his irritable and sullen taciturnity—his aversion to social enjoyments, and the occasional overwhelming despondency of his mind, show him to be the prey of deep and harrassing sufferings, of which none but those who have experienced them, can form an adequate idea. In order for the regular and healthy performance of the function of digestion, the two following conditions are essentially requisite:

- 1st. A due tone and peristaltic action of the stomach; and,
- 2nd. The regular secretion of a sufficient quantity of healthy gastric juice.

137 ¶ **SYMPTOMS.** These differ according to the stages of the complaint, or the degree and extent of irritation. In the commencement the appetite is variable; generally weak and often entirely destroyed; the patient is troubled with flatulency, distension, acid eructations, and colic pains: sometimes the appetite is morbidly craving: the mind is at times depressed and lan-

guid; the tongue covered with a white fur; the bowels usually constipated, and the whole system languid.—When the disease has continued for some time, the stomach is tender and uneasy; pulse tense and quick; mind irritable, discontented and gloomy; the bowels more irregular; sometimes bound and other times loose, and the food often passed off in an imperfectly digested state. The body now begins to waste, and the strength fails; the skin becomes dry and shrivelled; the countenance assumes a haggard and sallow aspect; some difficulty of lying on the left side; and there is usually a morbid sensibility to low temperature. Headache, heartburn, palpitation, disturbed sleep, and a long train of nervous symptoms generally attend this disease.

138 ¶ CAUSES. The main causes are, inattention to diet, and the consequent indulgence in aliments that are indigestible by quality or quantity, sedentary habits and intense mental application; over distension of the stomach, by eating too much, or too fast, so that a proper mixture of the necessary fluids do not take place; imperfect mastication, the free use of condiments and drinks too freely taken during meals.

139 ¶ TREATMENT. First obviate, as far as possible, the exciting causes of this distressing affection, and, with this view we must direct our attention chiefly to the adoption of proper *dietetic* regulations. The quantity and the manner of taking it should be strictly observed. As a general rule it will be found that, animal food is more readily managed by the stomach than vegetable; there are, however, exceptions to this rule. Each individual, after a certain term of experience,

knows the peculiarities of his own stomach; and, in this matter, should be his own physician; for much mixture of diet, at a meal, is always hurtful. Fixed periods for eating should be observed, and also undeviating and habitual times for evacuating the bowels should always be attended to.

Various vegetable *tonics* which owe their virtues to a bitter principle, may be prescribed simply or in combination with excitants. Colombo, gentian, quassia, in combination with alkalis, are often serviceable. Indigestion seldom continues long, even in its mildest grades, without involving the liver in functional disorder, and hence alternate doses of blue pills have of late years been among the most common means in dyspeptic affections. The best remedy I ever used for this disease will be found in Eastman's Treatise, 13th paragraph. The flesh brush and flower bath are good agents in this disease. Exercise in walking or riding may be observed throughout the whole course of the disease.

BOTANIC DEPARTMENT.

37 ¶ THE *indications* of cure are: 1st, to obviate, as far as practicable, the exciting cause; and, 2nd, to restore the lost and impaired function.

TREATMENT. This depends much on regulating the quantity and quality of diet, and restoring the impaired functions of absorption, circulation, secretion, hepatic, pancreatic, lacteal, pulmonic, dermoid, and in fact, all the digestive and other auxiliary parts. The

system can be partially regenerated by a thorough use of the bath, emetics, injections, laxative and tonic bitters, aided by nutritive and unirritating food, drink, proper clothing, moderate exercise, and regular habits. Great attention should be paid to the state of the bowels, boneset, nervine, black root, will quicken their action; while aylene composition and other tonic bitters will give tone and energy to the general system. Many other articles, such as the gizzard of pigeons, chickens, and other fowls, when pulverized and taken in moderate doses, contribute greatly to promote digestion, and may, in some cases, be used for that purpose.

SECTION III.

PAIN IN THE STOMACH.

140 ¶ THIS affection occurs along with dyspepsia; and, at times, in an infinitely more severe form, commonly designated as "cramp in the stomach." Some dyspeptics are extremely liable to a nervous pain, resembling colic; it comes on rapidly; soon attains its highest point, and gradually ceases to be re-produced under like circumstances.

CAUSES. Sometimes it is purely nervous, at other times sympathetic, occasionally it is produced by irritating and indigestible articles of food.

141 ¶ TREATMENT. The treatment of *gastrodynia* must be based upon a knowledge of the causes. The

nervous form may generally be removed by stimulants and opiates, such as peppermint, spirits of turpentine, warm aromatic bitters, opium, &c. If it arises from improper ingesta, vomiting will afford prompt relief. Titillating the fauces with a feather, or your finger, will generally in a moment produce vomiting. Tartar emetic or lobelia will generally afford relief. Chronic colics are often relieved by the oxide of bismuth; carbonate of ammonia or the sulphate of quinine, and external applications may also be used. Hot bags of salt; hot trencher or a bottle filled with hot water and wrapped in flannel, may be applied to the pit of the stomach.

BOTANIC DEPARTMENT.

38 ¶ *THE indications* are: 1st, to relax the spasms: and, 2nd, to change the morbid action and prevent the recurrence of the disease.

TREATMENT. The cause must be determined before we can properly treat it. If it should be occasioned by improper and irritating agents taken into the stomach, speedy vomiting with lobelia will generally relieve it. If it depends upon spasms occasioned by cold, flatulency, &c., aromatic and warm stimulating teas and hot applications to the stomach will prove serviceable. If it becomes chronic, the bath, emetics, purges, dandelion, a large sweet gum plaster worn on the breast, and thorough courses of medicine will be required to change the morbid action of the stomach, and restore a healthy tone to the general system.

SECTION IV.

VOMITING.

142 ¶ VOMITING is a symptom which may be an accompaniment of all the affections of the stomach, or symptomatic of other diseases, or various lesions of other organs, especially of the head. There can be no question, also, that vomiting is at times, of a purely nervous origin, and may arise from an unusual impressibility of the nerves of the stomach, so that almost all alimentary matters may be ejected soon after they have been received into that organ.

143 ¶ TREATMENT. The remedies may be classified into those which are necessary to allay vomiting, and into those which prevent its recurrence. Among the first class may be mentioned: 1st, soda water, or powders of magnesia, laudanum, camphor, sulphuric ether, creosote, and strichnia. Stimulating glysters of common salt, or salts, with the addition of the oil of turpentine often afford relief. Sometimes it becomes necessary to use counter irritants, or stimulating liniments, blisters, &c.: 2nd, with a view of preventing its return, we may have recourse to tonic bitters, mucilaginous drinks, warm bath, or cupping, according to its various causes, if they can be ascertained.

BOTANIC DEPARTMENT.

39 ¶ *THE indications* are: 1st, to stop the excessive action of the stomach: and 2nd, to change its morbid excitability so as to prevent its recurrence.

TREATMENT. To fulfil the first indication, peppermint, spearmint, weak lye, or lime water, &c., will frequently allay the excessive action. The *second* may be generally met by relaxing and stimulating injections, and the bath, with small doses of lobelia, or some other relaxing articles. Tonic and laxative bitters, with proper diet and regimen, will contribute much to the relief of the patient. External plasters, poultices, or liniments, may be applied to the region of the stomach.

SECTION V.

HEARTBURN.

144 ¶ HEARTBURN consists of a gnawing, or burning uneasiness, felt at the upper orifice of the stomach. Some dyspeptics are very much annoyed by it. For the purpose of digestion, *two* acids are secreted from the stomach in a healthy state, commonly the muriatic and the lactic, or acetic. Now in special conditions of the stomach, these acids are secreted in too great a quantity, and by their predominance, give rise to this affection.

TREATMENT. This consists in giving alkalies, or antacids, which neutralize the redundant acid in the stomach, by combining with it. The most valuable of these are, gum camphor, soda, pearlash, lime water, chalk, magnesia, and ammonia. A radical cure can only be effected by exciting a new action in the stomach, and adopting an appropriate regimen.

BOTANIC DEPARTMENT.

40 ¶ *THE indications* are, to neutralize the excessive acids created by the stomach, change and excite a new action in that organ.

TREATMENT. Give prepared chalk, pearlash, magnesia, and some other of the mild absorbent alkalies, and where it does not yield by these simple means, it is best to administer emetics, tonic bitters, and *courses* of medicine, until you change the action of the system.

CHAPTER VII.—SECTION I.

DISEASES OF THE INTESTINES.

145 ¶ *THE* convoluted membranous tube that extends from the stomach to the anus, receives the ingested food; retains it a certain time; mixes with it the bile; propels the nutriment into the absorbents, and

conveys the fecal matter out of the body, is called the **INTESTINES**. Two structures of the bowels are especially liable to inflammation, the outer or peritoneal coat, and the inner or mucus coat. As one or the other of these structures are the principal seat of disease, some difference will necessarily occur in the symptoms and treatment.

146 ¶ **SYMPTOMS.** The *peritoneal* is characterized by fever, fixed pain in the abdomen, costiveness, and vomiting. It generally comes on with a feeling of uneasiness in some part of the abdomen, terminating in a fixed aching, or burning pain, referred usually to the naval. Obstinate constipation almost invariably exists. The tongue is dry, white, or brown, in the centre, and red around the edges, the skin is dry and hot on the body, the pulse small, frequent and tense, respiration anxious and short, the region of the abdomen is highly painful to the touch, and seems drawn together in knotty irregularities. When the *mucous* coat is inflamed, there is mucous discharges with more or less blood, and straining at stool, and the pain is manifest when firm pressure is made on the abdomen during deep inspiration.

147 ¶ **CAUSES.** Acrid substances, obstinate costiveness, spasmodic colic, irritating purges, influence of cold, wounds, worms, &c.

DIAGNOSIS. In inflammation of the bowels, the patient lies quiet on his back, moving himself as little as possible; pressure aggravates the pain, and it is continuous, skin hot and dry, with great thirst. In colic, he throws himself about almost continually; pressure

relieves the pain, and it is intermittent—skin of natural temperature, and no thirst.

PROGNOSIS. This disease is always to be regarded as one of considerable danger, a weak pulse, cold hands and feet, extensive pain throughout the abdomen, and becoming turgid, tense, and extremely tender to pressure, indicates great danger. Hiccough in the advanced stage, contracted and obscurity of pulse are most unfavorable. After all, the prognosis is always attended with uncertainty, some recovering, and others dying most unexpectedly.

148 ¶ TREATMENT. The sheet anchor of treatment consists in a prompt and decided effect made on the system by blood-letting, followed by large sedative doses of opium. The patient should be seen in a few hours again, and if the pain, on pressure, be great, and the signs of inflammation still exist, the bleeding, followed by opium, should be repeated. Very mild purgatives, and clysters of warm water, starch, &c., may be used with advantage to open the bowels. After general depletion, blisters may be applied to the abdomen, and dressed with morphine. If the *mucous* coat be the principal seat, fomentations of the infusion of tobacco, to the abdomen, will be found advantageous. Calomel, in combination with opium, may also be used. Soothing demulcient drinks and food should be used throughout the whole course of the disease.

BOTANIC DEPARTMENT.

41 ¶ THE principal *indications* of cure are: 1st, to equalize circulation and nervous action: and 2nd, to determine and maintain an action on the surface, and distribute it over the general system.

TREATMENT. The mild antispasmodic teas and injections may be administered, and then the vapor bath should be used, after which, large poultices sufficient to cover the whole abdomen and chest, should be made of the bruised leaves of bitter plants, as wormwood, tansy, mullen, burdock, slippery elm, and lobelia. If the inflammation is high, the poultices may be sprinkled on the inside with mustard or cayenne, and the bath (cot) should be employed often and long. The bowels should be kept open with mild and unirritating purges, and the skin may be rendered moist with teas of pleurisy root, catnip, or other soothing means. Counter irritants may also be applied to the extremities, and the greatest attention should be paid to diet and regimen.

SECTION II.

DYSENTERY.

149 ¶ DYSENTERY is unquestionably an inflammatory disease of the lining membrane of the large intestines, characterized by frequent, mucous, and bloody

stools, severe pains, straining at stool, and retention of the natural fæces.

SYMPTOMS. This disease is ushered in by slight chills, alternating with flushes of heat, thirst, dry skin, fever, nausea, and vomiting, tongue white in the centre, red and moist at its edges, pain and difficulty in voiding urine.

150 ¶ CAUSES. The disease sometimes seems to arise from contagion, but more especially from the poison of *misasmata*, heightened by atmospheric vicissitudes. A cold and moist spring, succeeded by a warm and dry summer, is peculiarly favorable to the production of the disease. Irritating and indigestible articles or substances, received into, or generated in the bowels.

PROGNOSIS. When the discharges in the commencement consist almost entirely of blood, the disease is usually much more tractable than when they are composed chiefly of mucous, streaked with blood. When the abdomen is tender and swelled, stools fœtid, it is indicative of much danger.

151 ¶ TREATMENT. The three principal *indications* are: 1st, to moderate the febrile reaction of the heart and arteries when it is excessive: 2nd, to restore the regular action of the skin: 3rd, to subdue the local inflammation of the bowels. To fulfil the *first*, blood may be taken from the arm. This is sometimes necessary in sporadic and endemic cases, but it may be remembered, that in general, mucous inflammations do not require the same loss of blood that is required in serous structures. Most of the mild cases will yield

without the aid of the lancet. When the patient is plethoric, and the attending fever of a high grade, one or two efficient bleedings in the beginning of the disease, will generally moderate the griping pains, and the fixed abdominal pain, and favor the beneficial operation of purgatives, calomel, opium, and blistering remedies, upon which our principal reliance must be placed. The author has seen the happiest effects from a combination of one grain each, of calomel and sugar of lead, repeated in very severe cases, every one or two hours, until the opium makes a decided impression upon the system. Purgatives of castor oil or calomel, may be exhibited from time to time throughout the whole course of the disease. Clysters of starch and laudanum should be frequently used during the disease. Blisters or strong counter irritants may be applied to the abdomen, in the latter part of the disease, with decided advantage. In epidemic cases, the treatment must be regulated by its prevailing characters, and in those cases that are accompanied by signs of great prostration, and run their course to a fatal termination, so rapidly as is sometimes witnessed, especially in the torrid zone, the strength may have to be supported, whilst every effort is made to induce a new action in the system, by means of mercurials. Perfect rest, mucilaginous and sweating drinks should be strictly enjoined.

BOTANIC DEPARTMENT.

42 ¶ THE *indications* to be fulfilled are: 1st, to distribute accumulated vital action: 2nd, to restore the healthy secretions, and tone up the regular function of the bowels.

TREATMENT. Commence giving warm antispasmodic sweating teas, as catnip, sage, pleurisy root, till the stomach is pretty full, and followed by injections of the same; then administer the vapor bath; after which a mild emetic. The bowels should be freely injected with decoctions of witch hazel leaves or bark, alum root, blackberry root, sumach bark, slippery elm, bayberry, or the like; and the patient may be put into a warm bath, deep enough to cover the hips.

43 ¶ I have succeeded in an epidemic dysentery better by giving a strong decoction of sweet gum; and, at the same time injecting large quantities into the bowels. In violent cases the relaxant teas, vapor bath, emetics, and occasionally gentle cathartics, followed by astringent drinks, and emollient injections may have to be often repeated. Where the pain is severe, a weak saleratus injection will prove highly serviceable. The food and drink should be unirritating—the surface of the abdomen frequently rubbed with stimulating liniments; and, where the strength fails, the bitter and tonic articles may be freely given.

SECTION III.

CHOLERA MORBUS.

152 ¶ THIS disease is known by frequent and violent vomiting and purging, with painful gripings, spasms of the abdominal muscles, sometimes of the calves of the legs. It is met with in this climate in the summer, and in hot regions, at all seasons of the year.

SYMPTOMS. It usually comes on with soreness, pain, distension, flatulency in the stomach, heat, thirst, and hurried respiration, weak and fluttering pulse. The alvine discharges are at first thin and watery, and generally with little or no admixture of bile; but soon it begins to make its appearance pretty copiously in the evacuations, and almost every thing received into the stomach, is immediately thrown up again.

CAUSES. Elevated temperature acts as a predisposing, while exposure to a cold damp air and eating improper and indigestible food, acts as the principal exciting cause of this disease.

153 ¶ TREATMENT. Opiates are decidedly the best remedies: they may be given in large doses in soda water, and repeated very often in severe and unyielding cases. When there is much pain in the region of the stomach, and cramps of the extremities, opium or laudanum may still be given in large doses, and fomentations or frictions, with stimulating liniments, may be at the same time applied to the stomach and parts affected

with spasms. When the disease supervenes soon after having taken a full meal, or some indigestible or irritating articles of food or drink, the patient should be directed to take copious draughts of chamomile or balm tea, in order to procure the speedy evacuation of irritating substances lodged in the alimentary canal: after which the opium should be given, and a quantity of laudanum and warm water should be injected into the bowels. If the pulse sink and the extremities become cold, the patient should be wrapped in flannel soaked with hot brandy, and a solution of camphor and ether, may be given every half hour, until reaction is established. Animal broths may be freely given during convalescence, and flannel worn next the skin.

BOTANIC DEPARTMENT.

44 ¶ THE *indications* are: 1st, to curb the excessive excitement and reverse the morbid action: 2nd, to remove the obstructions and equalize vital accumulation.

TREATMENT. The patient may take large draughts of chamomile, peppermint, spearmint or soda water, and the same ingredients with a weak tea of lobelia, may be injected into the bowels. The vapor bath may then be administered—while in the bath give freely of sage tea, catnip, or balm; and, if the stomach and bowels seem to be irritated by food or morbid matter, a mild emetic, and sometimes a cathartic will be needed. The surface must be kept warm, and irritated by liniments, plasters, &c. When the irritating matters are removed

from the stomach and bowels, mild astringents may be given by the mouth, and injected into the bowels. This process may have to be continued in severe cases, until convalescence is fully established.

SECTION IV.

ASIATIC CHOLERA.

154 ¶ THIS *epidemic* disease has girdled the world, and the death-knell of millions has been heard from the rivers to the ends of the earth. This extraordinary and most formidable disorder, has depopulated countries, cities, armies and navies; and at last has retired from our shores, leaving us, it may be hoped, only to be known hereafter as a matter of medical history.

SYMPTOMS. In almost all the epidemic visitations certain *premonitory* symptoms have been observed, such as pain in the region of the stomach, and burning sensation in the bowels, and more or less diarrhœa, the discharges resembling *rice water*; depression of spirits; sense of debility attended by tremors, and ringing in the ears. As the disease advances, the nausea, vomiting, and purging, become very conspicuous, attended with restlessness, thirst, cramps attack the chest, abdomen, and extremities; the whole body becomes cold; the features are astonishingly changed; the pulse sinks; the face becomes blue; the hands wrinkle, and the prostration remarkably apparent.

155 ¶ CAUSES. The primary or efficient cause is at present unknown. It is certainly epidemic, and some suppose contagious, but this is questionable. The exciting causes consisted in errors of diet, living in filthy and unventilated apartments, and breathing the air in the peculiar locality where it prevailed epidemically.

DIAGNOSIS. It can be readily distinguished from every other disease, by the disturbed respiration and circulation, icy coldness, cramps, peculiar change of features, vomiting, and purging of rice colored discharges, &c.

PROGNOSIS. This is very unfavorable, nearly half of all the cases taken throughout the globe have been lost. Half the deaths happen in the first twenty-four hours. Thus the danger decreases as the time advances, and the longer a cholera patient lives, the more likely is he to continue to live.

156 ¶ TREATMENT. In a disease so rapid and fatal in its course, early and prompt treatment is demanded. This may be divided into: *first*, that which is proper in the first stage of the disease: *secondly*, that which is demanded in the stage of collapse: and *thirdly*, in the period of reaction or consecutive fever.

1st. On the first appearance of the symptoms, the patient should go to bed and keep up a warm perspirable state of the surface, by means of sweating agents; peppermint, spearmint, and laudanum, may be freely given, and where there is much vomiting and purging, soda water, sugar of lead, and opium, may be administered. Hot plasters and strong stimulating liniments may be applied to the region of the stomach. Strichnia

applied to a blistered surface, on the nape of the neck, and given internally, will often check the profuse diarrhœa, with rice water evacuations, and allay the excessive vomiting.

2nd. Even in the stage of collapse, the stimulating liniments, plasters, friction, and warmth, are capable of accomplishing much good, and warm solutions of common salt and vinegar should be largely and freely injected into the bowels.

3rd. In the last stage, when reaction takes place, stimulants may be discontinued. Cupping and blistering will be found of great service in this stage.

157 ¶ REMARKS. Calomel, bleeding, emetics, and camphor, have all stood high in certain stages of cholera, but seeing the discrepant testimony in their favor, I am led to believe their efficacy is doubtful. From the few cases of cholera I have witnessed, it seems to me that peppermint, opium, sugar of lead, and large doses of common salt and vinegar, given by the mouth, or injected into the bowels, and applied as a hot bath to the whole surface, together with other restoratives, which will arrest the progress of waste, recall and sustain the natural action on the skin, and effect more than any other class of agents.

BOTANIC DEPARTMENT.

45 ¶ THE great *indications* to be fulfilled are: 1st, to allay the excessive irritability of the stomach: 2nd,

to change the morbid secretions: and 3rd, to restore an equilibrium, and maintain a natural tone on the skin.

TREATMENT. As the disease is rapid in its progress, and one of great danger, no time should be lost in preparation. The patient should take large quantities of peppermint, spearmint, or sweet gum bark, boiled down to a strong decoction. This should be largely injected into the bowels, with a strong tea of lobelia, and then the patient may be put into the vapor bath and thoroughly steamed, at the same time giving the teas of sweet gum bark, peppermint, and pleurisy root.

46 ¶ When the surface is warm and moist, he may be rubbed dry and put in bed, and warm moist rocks, or bottles of warm water applied to the extremities; the bowels may be freely injected with lobelia tea, in combination with starch, slippery elm, sweet gum, or salt and vinegar. The whole stomach and bowels may be covered with a plaster of ground mustard and cayenne, mixed with corn meal, or rubbed over freely with number six. This process may be often repeated and persisted in until the excessive discharges have abated, the skin may become moist and natural, the spasms relaxed, and the healthy functions fully established.

SECTION V.

COLIC.

158 ¶ WRITERS have divided colic into a great many varieties, but as technical niceties and nosological refinements are of little use to the clinical physician; I shall notice those only which have a practical bearing. The most common varieties are *flatulent* and *bilious* colic.

1ST:—FLATULENT COLIC.

SYMPTOMS. Violent pain usually comes on suddenly in some part of the abdomen, which is not augmented by pressure generally, a griping, twisting, uneasy sensation is experienced about the navel. The pain rapidly increases, intermits, and presents all the characters of spasm; hence it has received the appellation of "spasmodic colic." It is usually accompanied by great anxiety and suffering, rumbling in the bowels, constipation, more or less, flatulence, by the discharge of which relief is afforded.

CAUSES. Indigestible and acid substances passing down the intestinal canal, are the most frequent causes of simple colic.

159 ¶ TREATMENT. It may be remembered that some portion of the intestines are, in consequence of wind, over distended, requiring some carminative or aromatic stimulants. The essential oils, as peppermint,

turpentine, and juniper, will generally procure relief; camphor, ether or laudanum, will frequently cause a discharge of wind and allay the spasms. In more severe cases which come on within an hour or two after taking a full meal, recourse should be had to emetics or cathartics. Ipecac or castor oil, and spirits of turpentine, may be regarded as valuable agents in this case. Frictions with the hand, flannels wrung out of hot water, or bottles filled with hot water may be applied to the abdomen with advantage.

BOTANIC DEPARTMENT.

47 ¶ The *indications* are: to allay the spasms, and remove the obstructions.

TREATMENT. Give peppermint, spearmint, and pennyroyal teas, and if speedy relief is not obtained, a dose or two of number six, and apply bottles of hot water to the bowels. If it is occasioned by improper articles of diet, give an emetic of lobelia, and should it not yield, a relaxant injection and the vapor bath.

SECTION VI.

BILIOUS COLIC.

160 ¶ THIS variety of colic is indicative of a superabundant or vitiated secretion of bile. There is more nausea, vomiting, constipation, and fever in this form than in *flatulent colic*, and the digestive, nervous, and biliary organs are much more affected. *The remote cause* seems to be the same that gives rise to autumnal bilious fever.

161 ¶ TREATMENT. The great *indications* of management are: 1st, to remove the spasmodic condition of the bowels: 2nd, to evacuate the morbid secretions: and 3rd, to prevent the occurrence of inflammation. In plethoric and active habits, blood-letting may be advisable from the arm. Frictions, fomentations or stimulating liniments may be applied to the abdomen. Glysters composed of salts and opium, or oil and turpentine with large quantities of warm water, may be thrown up into the bowels. Many cases exhibit a highly bilious character, requiring emetics, followed by efficient doses of calomel, after which full doses of opium ought to be administered.

BOTANIC DEPARTMENT.

48 ¶ THE principal *indications* are: 1st, to relax the system, and carry off the fæcal accumulation: 2nd, maintain an action on the skin, and tone up the bowels.

TREATMENT. This should consist in giving relaxing herbs, as peppermint, boneset, and weak tea of lobelia, with injections of the same. The bath may then be administered, after which an active emetic. The bowels may be kept open with vegetable or tomato pills. The injections may be composed of table salt, starch, or slippery elm, and if the bowels are tender to the touch, fomentations of bitter herbs may be applied to the region of the bowels.

SECTION VII.

PILES.

162 ¶ THIS disagreeable and painful affection consists in a flux of blood from certain tumors arising about the verge of the anus, which is discharged more especially upon the patient's going to stool. These tumors are of the size of from a pea to a walnut, situated internally and externally, mostly round, and of a red or blue color, generally hot and painful. They may be caused by any agent that will interfere with

the due circulation of the blood through the abdominal system, as costiveness, pregnancy, liver diseases, &c. There appears to be a peculiar physical temperament or hereditary predisposition to the occurrence of this affection. Age, and habits of life, also serve to favor its development.

163 ¶ TREATMENT. In long standing cases, and where chronic affections have been improved by the supervention of piles, particular caution should be exercised in the application of remedies calculated to suppress the discharge. When the discharge of blood is copious it may be checked by local applications of mineral and vegetable astringents. One dram of the iodine of iron mixed with one ounce of water, or one dram of kreosote with an ounce of water, forms an excellent injection. Poultices or ointments made of *stramonium* have likewise been employed. Injections of cold water, or sitting over a heat and smoke caused by burning old leather or shoes, will prove highly salutary. Chronic cases, says *Dr. Eberle*, may generally be relieved by small doses of aloes. Hay's liniment is exceedingly useful in piles. Sulphur and cream of tartar may be used for the purpose of obviating costiveness, and all heavy lifting and straining at stool, should be carefully avoided.

BOTANIC DEPARTMENT.

49 ¶ THE *treatment* may be conducted on general and local principles. The general may consist in the relaxing teas, the vapor bath, injections, and tonic bitters; local applications may be more immediately applied to the region of the rectum, bottles of warm water at night to the anus, and ointments may be made of lard, and the extract of night shade, poke root, or sweet gum: these may be rubbed on the affected parts daily.

SECTION VIII.

INFLAMMATION OF THE PERITONÆUM.

165 ¶ THE *peritonæum* is a serous membrane which lines or surrounds all the abdominal viscus, fixing and supporting the contents, and by means of the fluid which it secretes, lubricates the intestines, and enables them to move readily upon each other. This membrane is especially liable to inflammation, giving rise to *two* varieties: 1st, that which is more common to the male: and 2nd, that which is peculiar to the female, constituting what is called *puerperal* or *child-bed fever*.

163 ¶ 1st. VARIETY. It is frequently ushered in by chilliness, fever, acute pain in some part of the

abdomen, soon extending over most of it, which is increased when in an erect position, or highly aggravated by external pressure. The abdomen is tense, tumid and tender, the countenance peculiar, bowels costive, tongue white and moist, pulse hard and frequent. The patient lies on his back with the knees and shoulders raised in order to take the tension off the abdominal muscles and the pressure of the bed coverings.

CAUSES. Cold, fatigue, contusions, wounds, sudden suppression of accustomed discharges, or translation of erysipelas, rheumatism or gout to the peritoneum, may be regarded as the common causes.

166 ¶ TREATMENT. Prompt and decisive blood-letting is most essential to success in its remediate management. Topical bleeding from the abdomen by means of leeching or cupping, after which a large emollient poultice or cloths wrung out of hot vinegar or camphor spirits, and applied to the abdomen, will contribute greatly to the reduction of the inflammation. The bowels must be freely moved by purges of calomel or oil and turpentine, and aided by frequent injections of warm water. Large doses of opium will prove serviceable in this form of disease, and where it seems obstinate, mercurial ointment may be largely rubbed in on the skin.

167 ¶ 2nd. VARIETY. This inflammation, or *child-bed fever*, usually comes on soon after delivery. In addition to the above named symptoms may be mentioned a suppression of the lochial discharge and the secretion of milk; pulse very frequent; countenance

anxious and sunken; low muttering delirium; distressed and agitated state of the nervous system.

PROGNOSIS. This is very unfavorable. It is affirmed that seven-eighths of the total mortality in child-birth is caused by this disease. It seldom continues beyond the sixth or seventh day, and very often terminates fatally as early as the third. In its epidemic or contagious form it seems to be very rapid in its progress, requiring very early treatment, and if energetic means be not employed within twelve hours after the attack, and at times within six, all the efforts of the practitioner may prove futile. The inflammation must be subdued speedily or the patient will die.

168 ¶ TREATMENT. Blood-letting, practiced at an early period as possible, is one of the sheet-anchors of the physician, both in its well developed and congestive forms. In severe cases it may be repeated in four or five hours. Local bleeding, by means of cups or leeches, will be found advantageous, especially when followed by emollient applications to the abdomen, and laxative injections thrown into the bowels. After the depleting process, blisters may be applied to the abdomen and dressed with mercurial ointment. Calomel purges and opium, to allay the pain and general excitement, will prove highly serviceable. In congestive forms the hot bath, combined with gentle stimulants, as wine-whey, should be used, and at the same time warm water and spirits of turpentine may be freely injected into the intestines. The drinks and nourishment throughout the whole course of the disease should be of the mildest and weakest kind.

BOTANIC DEPARTMENT.

50 ¶ THE great *indications* of management are: 1st, to equalize the circulation and nervous excitement: 2nd, to maintain an equilibrium and determine to the surface and extremities.

TREATMENT. The main point is to keep up an action with the relaxant teas, cleansing the stomach and bowels with an emetic and injections, using freely the vapor bath and fomenting the bowels with bitter herbs, or poulticing with pond lily or slippery elm, sprinkled over with ground mustard or cayenne during the interval of the baths. One course after another must be followed up until the fever abates and the patient is convalescent. The bowels may be kept open with vegetable pills and the laxative injections, and the skin must be rendered moist with sweating teas of pleurisy root, bonset, and weak lobelia infusion. The great object of the vapor bath, it will be readily seen, is to equalize the available or extra vital force and distribute it over the whole system. This is the great *desideratum* in the practice of physic.

CHAPTER VIII.—SECTION I.

QUINSY OR SORE THROAT.

169 ¶ THIS inflammatory sore throat discovers itself by a difficulty of swallowing and breathing, accompanied by redness and swelling in one or both tonsils; dryness of the throat, foulness of the tongue, lancinating pains in the parts affected, hoarseness of the voice, pulse full, hard, and frequent, and some degree of fever. The external part of the throat in the region of the tonsils, is always somewhat tumefied and tender to the touch. In no structure is inflammation more apt to terminate in abscess than in this. Some persons have frequent attacks of the disease, which are apt to produce permanent enlargement and induration of the tonsils.

CAUSES. A scrofulous habit, mercurialized system, and persons who have already suffered one or two attacks, are more or less predisposed to this disease. The ordinary exciting causes are, cold and damp air, sudden check to the perspiration, and local irritants applied to the neighboring parts.

170 ¶ TREATMENT. In severe cases it will be advisable to bleed from the arm, and apply a blister to the throat or back of the neck. Stimulating liniments, as oil of turpentine or sal. ammoniac and vinegar may be applied to the throat. From long experience I am led to believe that, there is no agent known to the profession, which will relieve as soon as emetic doses of common salt and vinegar: dissolve two table spoonfuls

of salt in two-thirds of a tea cup of weak vinegar, and give a fourth every five minutes: if necessary repeat it two or three times a day. In addition to these means apply a solution of *nitrate* of silver to the inflamed parts by means of a swab, or a dossil of lint may be sowed to the end of the fore finger of a glove wet with the solution. From six to ten grains of nitrate of silver, to an ounce of water, will be of sufficient strength, which may be applied in severe cases, every half or three-quarters of an hour; flannel may also be worn around the neck.

BOTANIC DEPARTMENT.

51 ¶ THE plan of cure consists: 1st, in obviating the vital accumulation about the throat: and, 2nd, in distributing and maintaining it equally over the general system.

TREATMENT. Cayenne, salt and vinegar may be given in large doses, sufficient to puke and purge. The vapor bath may then be used, relaxing teas and injections if the case demands. I have for years treated *sore throats* and *scarlet fever*, with cayenne, salt, and vinegar, with the happiest effects. I have seldom repeated the *emetic* doses more than twice a day, and the bath of the same more than three or four times daily. Having passed through three or four epidemics of *sore throat* and *scarlet fever*, I can speak with much confidence in favor of the internal and external use of salt and

vinegar combined with a small quantity of cayenne. Poultices of pond lily or slippery elm and lobelia may also be applied to the throat.

SECTION II.

CROUP OR HIVES.

171 ¶ THIS disease is principally copied from Eastman's Treatise. It is so common and fatal in its tendency, that I concluded some patient might fall by it, who had not the other work to guide them in the treatment, therefore I have inserted it here.

This frightful disease is peculiar to young children, generally between the first and fifth years of age: some families are especially liable to it; and a child having been once attacked is very liable to its return. It is not contagious, but sometimes prevails epidemically—is more common near the sea coast and marshy districts—occurs more frequently in the winter and spring, than in other seasons—florid, robust, and fat children, are much more predisposed to the disease than those who are of an opposite habit. The disease consists of an inflammation of the mucous membrane of the superior portion of the respiratory tube. The inflammation usually commences in the fauces or back part of the mouth, and descends thence into the wind pipe, and occasionally even in the tubes of the lungs, terminating after a longer or shorter period, from its commencement in the formation of a *false membrane*; which, accord-

ing to the latest and most accurate observations, appears to consist of a concrete albumenoid, or muco-purulent matter. This false membrane or frothy mucus, sometimes, in a few hours blocks up, or cuts off the passage of the vital air into the lungs.

172 ¶ SYMPTOMS. This disease sometimes comes on suddenly, and acquires the utmost degree of violence in the course of a few hours: more commonly, however, its approach is gradual, the first symptoms being those of common catarrh, and sometimes ulcerated sore throat. A dry and hoarse cough, with slight difficulty of breathing, and a change of the voice, are generally the first intimations of its invasion. This very peculiar, hoarse, rough cough, oppressed breathing, and slight fever, continues sometimes for several days. Sooner or later the disease advances to its state of full development; and all the symptoms acquire a most alarming and distressing degree of violence. The respiration becomes difficult and oppressive. The *crowing noise* or cough, becomes more ringing or sonorous; the countenance flushed; the pulse frequent, tense, and quick; the skin dry and hot; the head thrown backwards; much thirst and extreme restlessness prevail.

173 ¶ CAUSES. The *exciting* causes of this disease are, *colds*, or sudden changes of atmosphere; dressing children so as to keep the neck and upper part of the chest perfectly bare, and thus rendering them more liable to the injurious influence of *cold* in these parts. We have already seen that the immediate cause was the formation of a mucous membrane in the wind pipe; by

the irritation of which, a spasmodic contraction or closing up of the respiratory passage was effected.

174 ¶ TREATMENT. The cure demands prompt and active remedies, and it is obvious that the general *indications* to be kept in view in its treatment are; 1st, to subdue the local and general inflammatory action as speedily as possible; and, 2nd, to promote the discharge of viscid and coagulable secretions which are lodged in, and obstruct the superior portions of the respiratory tube. *Blood-letting*, then, is our principal reliance, in extreme cases: this should be promptly and copiously attended to, particularly where the local and inflammatory action is strong. Where the pulse is hard, quick, and vigorous, attended with a dry and sonorous cough and respiration—such cases are apt to terminate in the formation of a false membrane in the wind pipe; and our efforts ought to be prompt and vigorous, to reduce the inflammation below the grade necessary for the formation of this viscid, limpid, membranous matter.

EMETICS are important remedies in this disease, and may, indeed, be regarded as indispensable in its remediate management; assisted by warm baths, blisters or some other irritating substances to the throat of the patient. You can frequently subdue mild attacks of the disease without the aid of blood-letting. The lobelia is a valuable emetic in this disease. The compound syrup of squills, or, Cox's hive syrup, is also valuable. Tartar emetic, blood root, ipecac, and squills, are also highly valuable. Calomel has been recommended by some very highly. Seneka, snake root, and liver of sulphur, are articles which have been recommended in this affec-

tion. The following mixture, as an *emetic* in croup, after proper depletion, has been practiced:

Infusion of seneka, snake root, four ounces.

Syrup of ipecac, one dram.

Oxymel of squills, three drams.

Tartar emetic, two grains.

Take a table spoonful every fifteen minutes, until free vomiting is produced.

Purgatives and warm bath, are useful auxiliaries in the treatment of this disease. Blood-letting, emetics, warm bath, and applications to the throat, should often be repeated in the commencement of the disease. Some cases have been suddenly checked by giving large doses of table salt and vinegar, so as to puke rapidly. Of late, *cold* bathing, and especially, the application of *cold water* to the throat, by means of a bladder, has been introduced, and highly recommended. I cannot speak in reference to this matter, having never tried it.

BOTANIC DEPARTMENT.

52 ¶ The *indications* of cure are: 1st, to relax the spasms: 2nd, to discharge the mucus in the throat: and, 3rd, to promote the action of the skin.

TREATMENT. Commence giving lobelia tea in combination with composition, until you produce thorough vomiting; after which, injections, and the vapor bath should be administered. The patient may then be purged and drink plentifully of pleurisy root, rattle root, or boneset. If the difficulty of breathing still

remains, in a short time give lobelia and vomit the patient again, and follow it with injections and the bath, until a natural and healthy action is fully established.

SECTION III.

BRONCHOCELE OR GOITRE.

175 ¶ THIS disease consists in a chronic enlargement of the thyroid gland, situated at the anterior part of the neck, at the first rings of the wind pipe, beneath the skin.

SYMPTOMS. It commences with a small tumor on one or both lobes of the *thyroid gland*, or in the isthmus between them. It gradually increases in size until, in the course of years it acquires, in many instances, an enormous bulk, occupying the whole anterior part of the throat, from ear to ear, and projecting considerably beyond the chin, and occasionally even extending down to near the middle of the chest. The tumor is at first soft, elastic, and spongy; to the touch it is rarely equable, being more commonly developed on one side than the other: the color of the skin is natural and moveable over the enlarged gland. The tumor is generally free from pain or tenderness during the early period of its progress; but when it becomes large and indurated, transient pains are at first felt darting through the enlarged gland, at the same time the skin assumes a slightly red or copper color, and the veins of the neck become large and turgid. At first no inconvenience is

experienced, but when it acquires a large size, it gives rise to more or less difficulty of respiration and swallowing, anxiety, palpitation, &c.

176 ¶ ETIOLOGY. "One of the most singular circumstances in the history of this affection is, its permanent and extensive prevalence in certain localities, often of limited extent; whilst the inhabitants of the vicinal districts, are almost wholly exempt from the malady." The disease is known to prevail especially at the base of lofty mountains in many parts of the globe. It is *endemic* at the foot of the Alps and Appenines, in Derbyshire, where it is called the "*Derbyshire neck*," and in the valleys of the mountain chains in most parts of this country. *Goitre* is more common in females than in males, and it is rarely seen before the age of puberty. It was at one time universally supposed to be owing to the drinking of snow water, but it is now found to be caused by water impregnated with calcareous sets, or from the presence of magnesian limestone.

177 ¶ TREATMENT. This disease was long treated by *burnt sponge*. The discovery of *iodine* in it led to the employment of the former, and soon the published cases of its wonderful agency were numerous. Since the extraordinary remedial powers of *iodine* in bronchocele, it is scarcely necessary to pay any attention to the various other means that were formerly resorted to for the cure of this affection; for it can hardly be presumed that, where the judicious employment of iodine fails, there can be any particular advantage obtained from any other remedies at present known. It has been advised by some, that its exhibition has been preceded

by blood-letting, and as the abstraction of blood facilitates absorption, this may be advisable, especially where little, if any, effect seems to be induced by it, after it has been administered for some time. Any of the preparations of iodine may be used internally and also externally. It is best to commence with ten or twelve drops of the tincture of iodine three times a day, given in sweetened water. It may be gradually increased to thirty or thirty-five drops. The *external* application of the iodine in the form of an ointment or liniment will also contribute more speedily to the removal of the tumor. The bromine and its preparations appear to be equally efficacious in the treatment of this disease, but they are not so much employed.

BOTANIC DEPARTMENT.

53 ¶ THE main *indication* consists in relaxing and dispersing the tumor. Frequently bathing the tumor with the warm bath and applying a plaster of lobelia and nightshade to the part, and occasionally rubbing on Hay's liniment, will frequently do much good. An ointment of iodine is also serviceable. Pills of burnt sponge have also succeeded in reducing the tumor.

CHAPTER IX.—SECTION E.

DISEASES OF THE BLADDER.

178 ¶ THE *bladder* is situated in the lower region of the abdomen for the purpose of containing, as a reservoir, the urine when secreted by the kidneys. It is subject to several annoying and painful diseases.

1st. Inflammation characterized by tension, more or less pain over the pubes, augmented by pressure, frequent desire of making water, and great difficulty in voiding it, only a few drops flowing, with great suffering and burning heat, straining, fullness and constipation and fever, mark this disease. The *causes* of *Cystitis* or inflammation of the bladder, are irritants engendered in or absorbed and conveyed into the bladder. Sometimes it is occasioned by injuries during parturition—cold or irritating injections forced into that organ.

179 ¶ TREATMENT. Efficient and early bleeding from the arm must be practiced until the excitement and activity of the pulse be abated; after which, cupping and leeching will be of the utmost importance in this affection. Immediately after this, a large emollient poultice may be placed over the region of the bladder, and the patient should be kept for some time in the warm bath, and especially in the warm hip bath. The bowels must be kept open by mild laxatives and mucilaginous injections, and if the pain be very great, the tincture of opium should be added to the clysters.

At the same time the patient should be kept on the use of demulcent and diluent drinks, in small quantity only, and remain in bed in a horizontal posture. If the urine is retained, the catheter should be used occasionally. Opium combined with calomel has been highly serviceable in its irritated and sub-acute form. It is best to inject mucilaginous fluids into the bladder, also tar water and clear soot water prepared from soot of the chimney, has been of the utmost service. The internal use of uva ursi, pipsissaway, balsam copavia, cubebs, turpentine, &c.

BOTANIC DEPARTMENT.

54 ¶ THE *indications* of cure consist in removing the obstructions and restoring an equilibrium in the system.

TREATMENT. The system must be relaxed by the antispasmodic teas, as spearmint, lobelia, and injections of the same, then the vapor bath should be used; after which large emollient poultices or hot fomentations should be applied to the region of the bladder. Bottles of hot water answer an excellent purpose, to impart warmth to this organ. The bowels should be kept open with mild purgatives, and the skin moist with demulcent drinks and sweating teas. If the bladder should remain in a chronic and irritable state, pipsissaway, cloves, and uva ursi may be given freely to drink. If the patient should not void his urine freely, the catheter should be introduced into the bladder, and the urine drawn off.

2ND:—STOPPAGE OF URINE.

80 ¶ THIS sometimes occurs, causing great pain and weariness to the patient. It may arise from palsy of the bladder, or any mechanical obstacle seated in or about the neck of the bladder. The treatment consists in removing the offending cause and promoting the discharge of urine. If the patient be robust, draw blood from the general system, and the operation may be followed with the general warm bath and full doses of opium. The uva ursi, buchu leaves and dandelion, are all good agents in this disease, and will often afford considerable relief. If these do not in a short time produce a flow of urine, the catheter should be occasionally introduced into the bladder, and the urine drawn off.

BOTANIC DEPARTMENT.

54 ¶ THE main *indication* is to relax the sphincter muscle, and remove the obstruction.

TREATMENT. The antispasmodic and diuretic teas may be freely given, as juniper berries, melon seeds, clivers and weak lobelia tea. The vapor bath may then be administered. Poultices of bitter herbs should be applied to the pubic region. Wintergreen, dandelion, and buchu leaves are all good to be used as teas until the obstructions are removed. If necessary, the catheter may be used to draw off the urine.

3RD:—INCONTINENCE OF URINE.

81 ¶ THIS, in children, is the source of much anxiety to parents as well as to the sufferers themselves. It is generally relieved by giving from ten to twenty drops of the tincture of Spanish flies three times a day. The internal use of the nux vomica has likewise proved serviceable. Twenty grains of alum every four hours for a time, mixed with mucilage of gum arabic, have occasionally removed cases of long standing.

BOTANIC DEPARTMENT.

56 ¶ THE *indications* and treatment consist in strengthening and exciting the sphincter muscles of the bladder. This may generally be overcome by voiding the urine freely before going to bed, and taking tonic and astringent bitters. Large doses of alum, continued for some time, will generally relieve the patient.

4TH:—DIABETES.

182 ¶ In addition to the above affections, the bladder is subject to this form of disease, characterized by far more copious secretion of urine than natural, which contains a considerable quantity of sugar, obtained at

the expense of the system, being attended with great thirst, voracious appetite, and an obstinately dry and harsh skin.

TREATMENT. The profession are at a loss to know how to treat this disease successfully. Some bleed largely; others recommend agencies which will direct the flow of fluids towards the skin, warm clothing, animal diet, opium and the muriated tincture of iron.

BOTANIC DEPARTMENT.

57 ¶ THE most prominent *indications* are to equalize the vital actions, change the morbid secretions, and tone up the secreting and excreting surface.

TREATMENT. Regular *courses* of medicine should be administered until you alter the state of the system. Alterative and tonic bitters may be continued between the courses. Hemlock, bayberry, witch hazle, will be good articles to tone up the morbid surfaces. The catheter may be introduced into the bladder, and the pointed end of a small syringe put into the end of the catheter, and mucilaginous and astringent fluids may be injected into the bladder.

5TH:—PAINFUL AFFECTIONS OF THE BLADDER.

183 ¶ THIS often occurs attended with a sense of bearing down, and great difficulty in making water.

This state of disease may generally be relieved by combining equal parts of balsam copavia, sweet spirits of nitre, and oil of juniper, and taking a teaspoonful at a time, three or four times a day. Sometimes it is best to combine laudanum with it.

BOTANIC DEPARTMENT.

58 ¶ THE *treatment* should consist of the balsamic preparations, as balsam of copavia, life, or fir, in combination with oil of juniper, or a strong tea of juniper berries medicamentum will generally procure relief.

SIXTH:—URINARY CALCULI.

184 ¶ THIS may arise from the deposition of matters contained in greater or less quantity in the urine in a state of health, all except the *mulberry* calculus, which is composed of the oxalate of lime, or is formed by the blood in consequence of faulty nutrition. The chief sediments that form in the urine may be conveniently treated under *two* heads, according to the *two* kinds of salts that form the urine, which precipitate and require distinct treatment, and each has its own peculiarity. 1st, the *lithic* or *uric*, in which the *lithic acid* and the *lithates* form the precipitate; and 2d, the *phosphatic* in which the *phosphatic* salts are deposited.

1st. The first form of urinary calculi consists of *lithic acid* and its *compounds*. They are presumed to be, in two cases in three, the first step in the formation of calculi, when found in the bladder or in the kidney. They are usually of a brown, reddish or fawn color, and consequently, the *deposits* are of the *red* or *loteritious* kind. This must be remembered.

2nd. The second form of calculus consists of *phosphatic* concretions or formations, and their varied triple compounds. They are almost always *white*.

Besides these *two* varieties, there are minor concretions; but as the *red* deposits require *alkalies*, and the *white*, *acids*, it is of no importance to multiply divisions which have not a practical bearing. I have therefore omitted to mention them.

185 ¶ SYMPTOMS. Pain and uneasiness in the region of the kidney, bladder, urethra, and frequent desire to void the urine, which is passed in small quantities at a time, and without affording the usual relief. Dyspeptic symptoms, &c.

186 ¶ TREATMENT. The treatment of what is called a *fit of the gravel*, necessarily divides itself into two parts: 1st, that which is proper for the *lithic acid*, or *red* sediment; and, 2d, that which is proper in the phosphatic concretions, or *white* sediment.

187 ¶ 1st. Establish the healthy action of the digestive organs, by plain, digestible, and nourishing diet, avoiding all kinds of acid drinks and acescent aliment, salted or dried meats, and preserve a tranquil state of mind—enjoy free air and use moderate exercise. At all

times it has been a subject of anxious endeavor to discover a mode of breaking down or dissolving stone in the bladder; but as yet, it is doubtful whether any agent has been discovered that will effectually do it without injury to the bladder. The *Vichy water* is an excellent remedy for this kind of calculous affection. The alkalis have been considered valuable remedies. Magnesia, in twenty grain doses, continued for five or six weeks, have in many cases relieved the patient. Lime water, from a pint to a quart daily, has been highly extolled. Soda, soap, &c., have also been used beneficially.

188 ¶ 2nd. When the phosphatic or *white* sediment appears, we resort to *acids* as a solvent. The mineral acids are valuable. The nitric, muriatic, sulphuric, carbonic, and tartaric, have all occasionally been used with much advantage.

Besides these *two classes* of remedies, there are others which are applicable in both varieties. The *tonic* bitters are valuable auxiliaries. The *uva ursi* and hops, are calculated to allay much irritation. Some have used the *gravel root* with considerable benefit. When the pain is excessive and aggravating, much relief may be obtained by opium and hyoscyamus. Should all means of destroying the calculus fail, it must be removed by the operation of *lithotomy*.

BOTANIC DEPARTMENT.

59 ¶ THE principal *indications* manifestly are: 1st, to remove the causes: 2nd, to establish a healthy action

in the digestive organs: 3rd, to relax all the obstructed parts—prevent and carry off morbid accumulations.

TREATMENT. The main point is to establish a healthy state of the stomach. This may be done by combining the emollient with a tonic principle, as sarsaparilla, dandelion, bitter-sweet, asparagus, horse raddish, honey and the various balsams. Pills or boluses may be formed of nervine, bitter or black root, slippery elm, and small doses of lobelia. They may be taken two or three times per day. The vapor bath or warm applications, may be applied to the region of the bladder. A strong tea of horse raddish and hops, will contribute much to allay the irritation. The gravel root will often cause a large discharge of gravel from the bladder. The lime water is certainly a good agent for calculous concretions. Where the disposition to this disease still exists, it will be best to remove it by occasional emetics, emollient and astringent injections, thrown into the cavity of the bladder.

CHAPTER X.—SECTION I.

DISEASES OF THE SKIN.

189 ¶ THE human body is surrounded by the *skin*, which is composed of *four* distinct layers. The second layer composes the *coloring* matter of the *dark* races of men. Like other structures they are the seat of a variety of shades and grades of disease. They are mostly inflammatory and eruptive in their character, attended by

diffused redness, soreness to the touch, but do not generally terminate like other ordinary inflammations.

1 s t :—E R Y T H E M A .

190 ¶ This inflammatory blush is one of the most common affections of the skin, and is distinguished by the occurrence of red, superficial and irregularly circumscribed blotches or patches, of various extent, upon the surface; sometimes upon the face, neck, breast, and arms; at other times, the whole surface of the body becomes suffused with a blush of different degrees of intensity, lasting from two to ten or twelve days.

191 ¶ TREATMENT. Where it is caused by chafing, wash the parts with warm water, and afterwards dusting the parts with some fine powder, as powdered starch, prepared chalk, or soot. At times it is requisite to keep the surfaces separated by an intervening rag or lint, and wash with sugar of lead. If it is produced by bites of insects, or poisoned by wounds, the application of hartshorn or sal ammoniac will afford marked relief. Spare diet, rest, gentle purges, are generally sufficient to accomplish a cure.

BOTANIC DEPARTMENT.

60 ¶ The *indications* are, to restore a healthy action of the bowels, produce and maintain an equilibrium on the skin.

TREATMENT. Administer the vapor bath, and, when done, wash the system over thoroughly with strong soap suds, and salt and vinegar. The bowels may be kept loose with pills of white walnut or the vegetable pills. Emetics of lobelia, or common table salt, will contribute much to the reduction of this inflammatory blush. Sarsaparilla, burdock, or spikenard, may be used as drinks.

2ND:—HERPES.

192 ¶ **THIS** means an eruption consisting of clustres of vesicles, having inflamed bases—the clustres or groups being separate and distinct from each other, and having skin of the natural hue between them. Usually the vesicles terminate in from one to two weeks, in the formation of scabs. The fluid in the vesicles is at first clear, afterwards becomes milky. There are several *species* of herpes; one is called *shingles*, another the *ring-worm*, &c. They generally denote a disordered state of the stomach and bowels, and are attended with a burning heat; pain and considerable constitutional disturbance are manifested.

193 ¶ **TREATMENT.** Mild purges, rest, a simple and unirritating diet, will in general suffice for the constitutional treatment. I have uniformly found that the application of a solution of *lunar caustic*, in the proportion of six or eight grains to an ounce of water, to arrest the progress of the eruption very speedily. The muri-

ate of mercury or tincture of iodine, will generally put a speedy stop to its farther progress.

BOTANIC DEPARTMENT.

61 ¶ *THE indications* are: to purify the system, kill and absorb the morbid deposits.

TREATMENT. The system may be cleansed by *courses* of medicine, if necessary; and mild purges may be used until a healthy action is established. The eruptions may be washed by the inspissated juice of blood-root or wood sorrel, which will arrest its progress; and a salve made of elder bark will heal the excoriated surfaces.

3RD:—ECZEMA.

194 ¶ *THIS humid* tetter or *running* scald, consists of an eruption of small vessels clustered together in patches of no determinate size, and terminating either by the absorption of the fluid of the vesicles, or by their rupture, which occasions the formation of their flaky scabs, often terminating in eight or ten days: sometimes it becomes chronic, and continues for months and even years. It often affects the whole scalp, face, eyelids, and external ear. The head is hot and raw, and when scratched, bleeds. The secretion often dries

into crusts, and mats the hair into little separate tufts. The glands of the neck enlarge, and sometimes the external ear swells and almost closes.

TREATMENT. Gentle purges, warm bathing, emollient poultices, alkaline, and sulphurous baths, are all exceedingly useful. The local applications consist in a wash of soda, creosote, nitrate of silver, or an ointment of red oxide of mercury, or stramonium may be applied. In the dry, scaly, cracked form of local *eczema*, as it occurs in the hands, is often cured by the ointment made of quick silver and nitric acid. I have succeeded best with an ointment of sweet gum and tobacco.

BOTANIC DEPARTMENT.

62 ¶ *THE treatment* consists in evacuating the bowels with gentle cathartics, and administering the vapor bath repeatedly, after which fumigations of sulphur will be beneficial. The surface may then be washed over with strong soap suds. The local parts may be washed with blood root dissolved in vinegar, or an ointment made of bitter-sweet, may be rubbed on the affected parts.

4TH: — ITCH!

195 ¶ THIS disease is highly communicable, and is known by minute vesicles, slightly raised above the level of the skin, and containing a serous viscid fluid, and causing an intolerable itching.

TREATMENT. Unquestionably sulphur is the most effectual mode for this purpose. An ointment made of half a dram of the iodide of potassium, mixed with an ounce of lard, and a little rubbed into the skin, will cure the disease much sooner. Soft soap is an excellent remedial agent for reabies or itch. Any mercurial preparation will speedily effect a cure. —

BOTANIC DEPARTMENT.

63 ¶ THE general *treatment* consists in a course of medicine, and taking a tea spoonful of sulphur in molasses, morning and evening, for four or five days. The *local remedies* may consist in an ointment made of yellow dock, or sulphur and hog's lard, to be rubbed on the surface at night for five or six nights. —

5TH:—CARBUNCLE.)

196 ¶ THIS is a malignant, reddish, or dark looking boil or circumscribed inflammatory tubercle, surrounded by diffused inflammation, terminating in gangrene. It generally appears on the cheek, neck, and back, accompanied by great constitutional disturbance, and the patient often sinks and dies within forty-eight hours.

TREATMENT. As *duthrax* is a disease of great danger, and rapid in its course, it demands prompt treatment. Fortunately the disease is rarely seen. It is best to make incisions through the gangrenous parts, and apply a solution of lunar caustic, twenty or thirty grains to the ounce of water, or strong potash, or muriatic acid, to the affected parts. These powerful agents may remain a few hours, and then apply dressings of turpentine or chloride of lime. Opium to allay pain, and quinine to brace the system, may also be given. —

BOTANIC DEPARTMENT.

64 ¶ THE *treatment* consists in applying a poultice of strong escharotic, potash, blood root or the extract of wood sorrel to the inflamed tubercle, until the parts slough off, then dressing the part with elder salve, and applying sweet gum plasters over it, until it perfectly heals. Number six and tonic bitters may be given to support the general system. —

6TH:—SCALD HEAD.

—197 ¶ THIS is one of the most rebellious affections that can fall under the care of the practitioner. It is characterized by small ulcers at the root of the hairs of the head, which produce a friable white crust. The glands of the neck often become enlarged. It is a disease that is communicable, and is supposed to spread among children of the same family.

TREATMENT. The affected parts may be softened by alkaline plasters, and then a warm alkaline ointment made of potash, may be rubbed over the parts night and morning for a time; should it not yield under this treatment, it will become necessary to employ the most powerful excitant agents. A strong solution of the chloride of lime or creosote may be employed; also, occasionally a strong solution of lunar caustic, or tincture of iodine, will be highly serviceable. Before applying these ointments in *iorigo* or *linea capites*, the scab ought to be softened by soap and water. An oilskin cap may be worn on the head during the treatment. —

 BOTANIC DEPARTMENT.

65 ¶ THE *indications* of cure are to alter and cleanse the morbid action, remove the incrustations, and heal the diseased parts.

TREATMENT. A *course* or two of medicine will

be required in conjunction with frequent local bathing the part affected. The head may be frequently washed in strong soap suds, followed by a wash of pearlash water, and then freely rubbed over with harlæmensis until the scalp is perfectly sound. The washes and harlæmensis must be continued for some time. It may be requisite occasionally to change the pearlash for the blood-root and vinegar wash.

7TH:—NETTLE-RASH.

198 ¶ THIS may be known by fever and hard elevations of the cuticle, or a diffusive reddish eruption or wheal on the skin of irregular form, like that produced by the sting of nettles. They often appear suddenly and vanish away again in the course of a few hours. No part of the body is exempt from them.

TREATMENT. In febrile cases, an emetic of ipecac will prove useful. Mild purges, rest, simple diet, cooling drinks, and the warm bath, will generally remove *urticaria* from the system. Where it is of an intermittent character quinine should be used.

BOTANIC DEPARTMENT.

66 ¶ THE *treatment* consists in equalizing the circulation and determining to the skin. This may be

accomplished by a course of medicine; after which the body may be thoroughly washed with soap suds, and then wash the eruption with tincture of lobelia. Sarsaparilla, burdock and snakeroot may be used as drinks until the system is purified.

8TH:—PURPURA.

199 ¶ THIS disease commences with purple spots, as its name purports, consisting of smooth, distinct peteahial spots, or patches like bruises. These dark, livid or purple spots appear on different parts of the system, and are generally attended with debility. Sometimes, however, they arise in typhoid and other forms of fever. Occasionally they discharge blood, more especially from the internal structures.

TREATMENT. If it appears in a full habit, bleeding, purging, and low diet will be advisable. But if it appears in a debilitated constitution, tonics, bark, wine and acids will be exceedingly beneficial. Local applications of chloride of lime, sal. ammoniac, or salt, will be found useful. Besides the above named diseases of the skin, there are several other *minor* diseases of that structure, which I have not mentioned, as their pathology and treatment are nearly the same.

BOTANIC DEPARTMENT.

67 ¶ If this disease appears in a full, plethoric habit, the *treatment* should consist of the vapor bath, preceded by the relaxant teas, and followed by alterative doses of purgative medicine; but if it should arise in a debilitated state of the system, alterative and tonic bitters will be required. The purple spots should be washed with salt and vinegar, or number six; and sarsaparilla, burdock, and the cold infusion of wild cherry bark may be freely used as drinks.

CHAPTER X.—SECTION I.

CONVULSIVE DISEASES.

200 ¶ UNDER this head we shall include diseases of the muscular tissue, and agiting motion of the nervous fibres, whether universal or partial. They are known by alternate relations with violent and involuntary contractions of the muscular and nervous parts. The voluntary muscles or those immediately under the direction of the will, are principally affected in all species of convulsions though muscles acting both voluntary and involuntary, are not unfrequently convulsed.

NERVOUS HEADACHE.

201 ¶ THE remote causes of headache are so numerous, so complicated, and appear under so many forms, it is difficult to always comprehend, and analyse them. It is generally the consequence of other diseases, though sometimes it is primary, and purely nervous. It is characterized by a sharp, lancinating pain in some part of the head, attended by retching and vomiting. It often returns periodically; sometimes only two or three times a year, at others, however, every month or week.

CAUSES. They are extremely various. It is supposed that a predisposition may be laid in organization, and the female sex, from greater nervous excitability, appear to be more liable to it.

202 ¶ TREATMENT. In the treatment, the cause must be carefully investigated, and if practicable, removed. When produced by improper diet, the evacuation of the contents of the stomach, and the subsequent exhibition of soda water will afford essential relief. When it is primary, and returns periodically, it may usually be allayed by full doses of, 1st, *narcotics*; 2nd, *tonics*; and 3rd, *counter irritants*. 1st. The strychnia and aconite or morphine have been administered with good effect. 2d. The quinine and carbonate of Fowler's solution, as tonics, will prove useful. 3d. The application of a strong solution of ammonia, camphor, mustard, &c., as counter irritants to the forehead, will very often afford much relief to the

patient. Cupping and moxa are also applied beneficially. It is, however, during the interval that appropriate agents should be most energetically employed.

BOTANIC DEPARTMENT.

68 ¶ THE principal *indications* are: 1st, to restore a healthy tone to the stomach: 2nd, to equalize the nervous action: and, 3rd, to determine to the surface and extremities.

TREATMENT. An emetic of lobelia, in conjunction with the aromatic teas, will often speedily relieve a patient. In some cases, it is best to follow it with the vapor bath and small doses of lobelia. Tonic bitters, as wild cherry bark, nervine, bonset, &c., will contribute much to prevent the return of this malady. The head may be rubbed with stimulating liniments, and the extremities ought to be kept warm and moist.

(NEURALGIA, OR NERVE PAIN.)

203 ¶ NERVE *pain* is one of the most painful diseases to which man is subject. It consists of more or less acute, lancinating or intermittent pain, seated in a nerve and shooting along its branches. *Neuralgia* is not confined to any particular nerve or system of nerves, but may occur in almost every sentient struc-

ture of the body, and has received various appellations according to its seat. When it occurs in the face, it is called *tic doloreaux*. It also occurs in the jaw and teeth, between the teeth, between the ribs, female breast, along the back, and inner portion of the thighs, and many other parts of the system are occasionally affected with this powerful and distressing complaint.—

— 204 ¶ SYMPTOMS. THE pain is very peculiar, coming on suddenly, and darting like lightning from its more fixed point, along the course of the nerves. The fits of pain are extremely agonizing with comparative ease at short intervals. During the paroxysms, the surrounding parts are extremely sensitive or tender to the touch. —

— CAUSES. It would seem that certain patients were predisposed to it, and in others, it, no doubt, owes its origin to *malaria*, and bears a strong affinity to intermittents. It may, however, arise from mechanical injury of the nerve, and exposure to cold and damp air. The duration of this disease is uncertain. It may be transitory, or it may last for months and years. Neither very old or young persons are often the subjects of this malady.

— 205 ¶ TREATMENT. THIS depends almost entirely on the judicious and persevering use of narcotics, counter irritants and tonics. Opium, strychnia, belladonia, and aconite, have been advised in various forms of neuralgia. Counter irritants may be made, with a union of opium and camphor, or amoniacal preparations, Croton oil, spirits of turpentine, tartar emetic ointment, &c. Any of these agents may be applied externally,

with decided advantage. Where the disease is intermittent, or returns periodically, much benefit may be derived from the use of quinine; Fowler's solution, but more especially the precipitated carbonate of iron. Besides these agents, moxa, electricity, galvanism, or animal magnetism, have been resorted to in some cases, with decided benefit. "By employing these agents already referred to, and continuing in their use, and if one fails, prescribing another, the perseverance and skill of the physician will often be crowned with success, when he might have been disposed to abandon the case as hopeless."

BOTANIC DEPARTMENT.

69 ¶ INDICATIONS are to relax the part, remove the accumulated action, and change the morbid state of the general system.

TREATMENT. The action of lobelia on the stomach, bowels, and part affected, certainly will relax the system, and the bath will equalize and distribute to all and every part, its wonted and accustomed operation, whilst emetics, injections and cathartics will purify and carry off morbid accumulations; alteratives, and counter excitants will alter and invite to other parts a portion of the circulating fluids. These ends must be perseveringly accomplished by the various means which nature and art have put into our hands for the purpose of relieving suffering humanity.

CHAPTER XI.—SECTION I.

(EPILEPTIC FITS.)

206 ¶ EPILEPSY attacks by fits, and, after a certain duration, goes off, leaving the person most commonly in his usual state. This distressing and deplorable malady is oftener met with among children than grown persons; and boys seem more subject to its attacks than girls. Its returns are periodical, and its paroxysms commence more frequently in the night than in the day, being somewhat connected with sleep. The convulsive stage generally continues from ten to fifteen minutes, sometimes for half an hour, and, in most instances, one paroxysm only occurs at a time; sometimes, however, they recur several times—the patient passing from one to another, with but a very short interval between them. With regard to the interval between the seizures also, there is the greatest diversity. In some cases, the paroxysm returns almost daily; in others, at various intervals, from a few days to a whole year, occasionally at the periods of new or full moon. It seldom proves fatal of itself; but when it recurs frequently, the mental powers gradually fail, until at last a total imbecility or idiotism is induced.

207 ¶ SYMPTOMS.—The epileptic patient falls suddenly, as if deprived at once of all sensation, volition, mental and moral manifestations, sometimes uttering a distressing cry or moan, and at others again starting or turning rapidly around before he falls. The face be-

comes tumefied and livid; the mouth distorted, and generally foaming; the eyes turned up and generally fixed, the pupils immoveable; the jaws so firmly closed that the tongue is sometimes seriously injured; the respiration is laborious, and in violent cases sonorous. In some cases, the fits are preceded by premonitory symptoms, such as confusion of mind, giddiness, flashes of light before the eyes. The most remarkable is what is technically called *aura*, or a peculiar sensation commencing in the feet, legs, or hands, like the passing of a cool stream upwards towards the heart or brain, and when it reaches either of these vital organs, the individual immediately falls.

208 ¶ CAUSES. It is thought in some instances to be hereditary, and in others, to depend on preternatural pressure or irritation upon the brain or spinal marrow. The *exciting* causes are generally sudden frights or great mental emotions, long exposure to *solar* heat, continual watching and great fatigue, masterbation and venereal excesses; gastric or intestinal irritation is perhaps the most common.

— DIAGNOSIS. The affection with which epilepsy is most liable to be confounded is *hysteria*, when this disease assumes the convulsive form. In hysteric convulsions, the countenance is less livid and distorted, there is less foaming at the mouth, and more weeping, laughing, and beating or tearing of the breast.

— 209 ¶ TREATMENT. There is perhaps no disease in which medical treatment is so frequently purely empirical, as the one now under consideration. During the fit, not much can be done—it will have its course.

To obviate injury to the tongue, a cork or piece of wood wrapped in cloth, may be placed between the teeth, and the head may be raised to prevent congestion of the brain, so far as practicable. It is only between the attacks we may hope to benefit the patient, and we should not be easily discouraged. Whatever course we resolve to pursue, let us give it a fair and persevering trial. I shall only mention the most prominent articles which have been celebrated for the cure of epilepsy, and pass on to those which, at the present time, seem to be the most successful. Valerian, mistletoe, the oil of turpentine, the preparations of copper, iron, and zinc, opium, musk, and amber, blisters, setons, and issues, &c. All these, in certain cases, may have been productive of advantage. The mugwort, in the dose of a tea spoonful in warm beer, given half an hour before the fits, has been highly recommended by German physicians. The nitrate of silver is much used in epilepsy. It is best to commence with half a grain twice a day, increasing the dose every two weeks, by half a grain in twenty-four hours. We should continue this remedy unceasingly for six or eight weeks. We may then substitute the mineral tonics for it a short time, and then resume the same remedy again for many months. Unless this be done, we will not be likely to affect much good. It is best to give it in the form of pills. From recommendation and experience, I am led to believe that more can be effected by the use of *indigo*, than any other article now known to the profession. It is best to begin with an eighth of an ounce, and double the dose daily until the patient arrives at two and a fourth ounces in a day; which quantity must be persevered in for some weeks. In some of the cases,

the fæces, urine and perspiration, will become blue. Remember, a good article must be procured and persisted in for a considerable time. Throughout the whole interval, the regimen should be mild and unirritating. —

BOTANIC DEPARTMENT.

70 ¶ THE most prominent *indications* of cure are: 1st, to relax and cleanse the general system: 2nd, to equalize nervous action and maintain that equilibrium.

TREATMENT. In full, sanguine temperaments, courses of medicine should be given, preceded and followed by the anti-spasmodic teas, injections, laxative bitters, and the vapor bath. In nervous habits, the nervines, tonics, and neurological operations should be administered. The relaxing teas and bath should be used just before or during the spasmodic state, and the stimulant tonics during its intervals. Alteratives must be continued until the periodical exacerbations are entirely broken up. There are some articles that are supposed to exert some specific properties in this disease: if so, they ought to be used. The mugwort and horse raddish, in vinegar, are good agents. With the indigo, I have often succeeded. Much will certainly depend upon the proximate cause, and our means must be directed to this point.

SECTION II.

(APOPLEXY.)

210 ¶ APOPLEXY makes its attack chiefly at an advanced period of life, and most usually on those who are of a corpulent habit, and who have led an inactive life, made use of a full diet, and drank to excess. It is very fatal in its termination, particularly after the first or second attack. The disease consists in an over distension or compression of the brain, either by blood, serum, or water, within the cavity of the skull.

— 211 ¶ SYMPTOMS. Like epilepsy, the apoplectic patient, when seized with this disease, falls down suddenly, with a suspension of the powers of sense and motion; the patient lying in a sleeplike state; his respiration is laborious and stertorous; pulse weak and scarcely perceptible; the expiration is attended with a puffing motion of the lips, and a frothy saliva is blown out with a spattering noise; the eyes are blood-shot, or dull glassy and fixed, or rolling about in their sockets; swallowing difficult. Sometimes premonitory symptoms precede the attack, some hours, weeks, or months. They are deep-seated pain, dizziness, particularly on stooping or suddenly turning the head round, bleeding of the nose, ringing in the ears, &c. —

212 ¶ CAUSES. — The *predisposing* causes are: a peculiar confirmation of the body, consisting in a large head, thick, short neck, short stature, flushed and full

face, and a plethoric and full habit. The exciting causes are numerous. Whatever tends to produce general plethora, or to keep up a strong determination of blood to the brain, increases the liability to apoplexy. ~

DIAGNOSIS. It can be distinguished from deep intoxication by the habits of the individual and the smell of his breath. From faintness, it may be known by the pulse and the stertorous breathing; from hysterics, by the absence of the alternate fits of laughing, crying, beating, jerking, and other nervous symptoms. —

213 ¶ TREATMENT. THE *indications* of cure consist in lessening the determination of blood to the brain. In the actual paroxysm, the patient should be immediately removed to an airy and cool situation, and the head and shoulders supported in an elevated position. A large orifice should be made in a vein, and the blood suffered to flow, until a very decided impression is made on the pulse, at the same time that ice, or cloths, wet with cold water, are applied to the scalp, and warm stimulating applications, such as mustard, cayenne, and other hot ingredients, made to the extremities. Cups may also be very beneficially applied to the temples, and back of the neck, conjointly with the means just mentioned. It is sometimes necessary to abstract a vast quantity of blood, before the disease begins to subside. Active purges by the mouth, and very loosening injections should be used and promptly administered. The *prophylactic* management in persons laboring under the usual premonitory symptoms of apoplexy, or constitutionally predisposed to this affection, constitutes a very important point of medical attention. A simple diet, exercise in the open air,

and the avoidance of all kinds of stimulating drinks, sudden and violent mental excitement, are among the most important precautionary measures in cases of impending apoplexy. \

BOTANIC DEPARTMENT.

71 ¶ THE *indications* of cure are, to unload the vessels of the head, restore an equilibrium, and determine the circulation to the surface and extremities.

TREATMENT. Ice or cold applications should be applied to the head, hot and stimulating articles to the surface and extremities, and a weak solution of lobelia must be poured between the teeth, and a very strong preparation should be immediately injected into the bowels, combined with cathartic medicines. As soon as deglutition is established, active purges may be given by the mouth, and the vapor bath may be applied to the body, while bladders filled with cold water may be put on the head. In this way you can often prevent the consequences of apoplexy, viz: serous and sanguineous congestions. The bowels must be kept loose, the system free from agitations and exposures, the diet mild, the drinks unirritating, until the animal economy is restored to a healthy state.

SECTION III.

CATALEPSY.

— 214 ¶ THIS rare disease consists in a temporary suspension of consciousness, sensorial power and volition, the body remaining in the precise position in which it was, when the attacks come on, without coma, muscular rigidity, or spasm—the respiration and circulation continuing. The duration of the attack is not always the same—at times it is transient—at other times it continues for hours, and even days, and is, doubtless, one of the forms of *trance*. ✓

— SYMPTOMS. The attack generally comes on without any warning of its approach. Every part of the body remains in precisely the same position in which it was at the moment of its seizure: even the expression of the countenance continues fixed during the cataleptic state, as at the moment of the attack—the eyes are generally open, fixed, and slightly turned up. One of the most remarkable circumstances of this affection is, the wax-like flexibility of all the members of the body, with sufficient tonic muscular action to cause an extremity or the whole body to remain in the exact position in which it is put by another person. Sometimes there is slight premonitory signs of an attack of catalepsy, such as palpitation, stretching, cramps, &c.

— 215 ¶ CAUSES. The predisposing cause is, doubtless, great impressibility of the nervous system; and, hence the affection is observed more frequently in

females than in males. Powerful mental emotions must be esteemed the ordinary exciting causes, as well as any thing that powerfully affects the nervous system, and produces irregularity in the distribution of the nervous influence: hence, catalepsy is one of the conditions developed under the operations of the animal magnetizer. —

— 216 ¶ TREATMENT. In general, the treatment is nearly the same as in hysteria—ether, assafoetida, and opium have been used successfully. Frictions along the spine, fomentations, or stimulating applications to the feet, and injections may contribute to the removal of the fits; cathartics, when they can be swallowed, are useful; and also the various antispasmodics; a proper regulation of diet; country air; regular exercise; tepid bathing, and laxative mineral waters, will often do more in cases of this kind, than any other course of remediate management. —

BOTANIC DEPARTMENT.

72 ¶ THIS disease may be produced in impressible subjects, by the operations of neurology. When it becomes excessive, it may become necessary to relieve it by the antispasmodic teas, frictions, baths, purgative bitters, mild diet, and active exercise.

SECTION IV.

CHOREA OR (ST. VITUS'S DANCE.)

— 217 ¶ THIS singular disease is seated in the nervous system. It is almost peculiar to childhood, and females are more subject to it than males. It comes on in paroxysms, and consists in irregular twitches, dancing, leaping, or spasmodic contractions of the muscles of the extremities and face, and occasionally of half or the whole; sometimes they last ten or fifteen minutes; more frequently they continue for an hour or two; and occasionally they commence in the morning and do not cease until the patient sleeps at night. —

— 218 ¶ SYMPTOMS. It is ushered in by certain premonitory symptoms, which vary in duration from a few days to several months, indicative of a deranged state of the digestive organs and nervous system. Slight flatulent pains in the stomach or bowels, constipation, vertigo, palpitations, visual illusions; and, in some instances, a remarkable proneness to mischievous and unruly conduct, are among the most prominent. After these manifestations, irregular and uncontrollable movements of some portions of the body, and rarely the whole of it take place. Sometimes the muscular motions are limited to certain parts, as the face, arm, or to separate muscles, altering the expression and gestures of the patient, and giving a most frightful and ludicrous aspect to the spasmodic sufferer. —

— CAUSES. Among the exciting causes, are enumera-

ted powerful mental emotions; excessive fright or rage; disappointed love; religious enthusiasm; masturbation; diseases of the stomach and intestines, sometimes from irritation, &c. When the disease is once established, it may last days, weeks, months, and even years.

219 ¶ TREATMENT. The principal indications in the treatment are: 1st, to remove or counteract the exciting cause: 2nd, to invigorate the general system; and, 3rd, to break up the train of associated actions, by which the paroxysms are repeated. The use of cathartics was, at one time, highly extolled, and there is no doubt that good effects are to be obtained from them. It is, however, to the combination of tonics, more especially the mineral, with cathartics, that we have to look for the most advantageous agency. The sulphate of zinc; nitrate of silver; Fowler's solution; and the precipitated carbonate of iron, all have been highly celebrated in the cure of *chorea*, especially the last named article. The oil of turpentine and sulphurous baths, have occasionally been used beneficially. It is best to give, in common cases, a brisk cathartic, twice a week, and three grains of the cyanuret of iron, in the form of pill, three times a day. This will generally succeed in the most obstinate cases.

BOTANIC DEPARTMENT.

73 ¶ THE *indications* of management consist, in relaxing the general system, restoring tone and universal action to the whole body.

TREATMENT. Hence we see the main point may be gained by repeated *courses* of medicine, followed by laxative and tonic bitters. The dandelion, canella, alba bark, columbo, and the like, will be good agents when combined with boneset, white walnut, or the vegetable pills. These will keep up a tonic and laxative operation, between the courses of medicine, until the system returns to its natural and healthy state.

SECTION V.

TETANUS.

220 ¶ THIS disease consists in violent *tonic* spasms of the voluntary muscles, with the powers of sensation and thought unimpaired. Sometimes spasmodic rigidity of all the muscles takes place, and, at other times, merely some of them. It attacks persons of all ages, sexes, temperament, and complexions, but the male sex more frequently than the female, and those of a robust and vigorous constitution, than those of a weak habit. It arises more frequently in warm than in cold climates. The average duration of the disease is four or five days,

though sometimes it terminates in a few hours, at others, not for several days, and even months. There are several varieties according to the seat of the contraction, and the position in which the body is thrown by them.

221 ¶ SYMPTOMS. *Tetanus* almost universally approaches gradually, so that several days often elapse between the first manifestation of its invasion, and its state of complete development. At first the muscles of the neck and jaw are spasmodically affected, and next extends to the trunk and extremities; and at times the whole frame is thrown into a most painful and unyielding state of tonic spasm. The spasms, at first, are short and remit slightly, but after a while the patient is in a continued rack of torture; the countenance becomes frightfully distorted; copious sweats break out; the pulse is quick and irregular; the respiration hurried and laborious; the voice grating and unnatural; the eyes dim and watery, and the jaws immoveably locked.

222 ¶ CAUSES. High atmospheric temperature appears to exert a powerful influence in predisposing the system to tetanus. It is very common in some regions and localities, and is very apt to arise from mechanical injuries of almost every kind. It may, however, be excited by general causes, as cold, &c.: children in some localities, are especially liable to it.

223 ¶ TREATMENT. This will depend very much on the cause. Where it arises from a wound or injury, experience has fully established the fact, that the best means for preventing the disease is, the production of

free suppuration in the injured part by lunar caustic, spirits of turpentine, or warm stimulating or escharotic poultices: copious blood-letting has been recommended by many practitioners: our chief reliance, however, is on *narcotics*, of which, opium stands at the head: a patient will bear, in extreme cases, an incredible quantity. Injections of tobacco have been highly recommended in combination with the warm bath and active purgation. From the experience of physicians, it would appear that, bleeding and cupping along the spine, large doses of opium, tobacco injections, active purgatives of calomel, free use of wine and caustic applications, over the whole neck, back, or seat of local irritation, constitute the most important curative means in this painful malady.

BOTANIC DEPARTMENT.

74 ¶ THE *indications* consist, in general relaxation, and producing suppuration in the part primarily affected.

TREATMENT. The patient should take nauseating and relaxing doses of lobelia and other antispasmodic teas. The vapor bath may be administered, followed by lobelia injections. Active purges may be given, and, in some cases, tonics may be administered in conjunction with them. The local parts may be freely bathed with hot spirits of turpentine, number six, and dressed with escharotic and emollient poultices. The spine may be also rubbed with strong stimulating liniments.

SECTION VI.

HYDROPHOBIA.

224 ¶ HYDROPHOBIA literally signifies a “dread of water;” and in man, it is always the result of a specific virus or contagion, derived from an animal laboring under the disease; and hence, almost the only mode in which it is propagated, is by wounds inflicted with the teeth of a rabid or mad animal.

SYMPTOMS. The symptoms of the first period occur at an indefinite interval from the infliction of the bite—at times in a fortnight, a month, or six weeks, and even later. The wound which receives the contagion assumes a livid appearance, and discharges a thin, ichorous matter; and if the wound be healed before the disease begins to develop itself, the cicatrix generally becomes a little elevated, painful and inflamed, and finally, often opens, forming an ill looking ulcer. The pain is of a peculiar stinging character. In general, there is extraordinary dread or horror of liquids, mirrors or polished surfaces; and the mere sight of water, or the sound of pouring water from one vessel into another, brings on violent suffocative spasms. The convulsions occur in paroxysms, more and more frequently, and with augmented intensity, until they ultimately destroy the sufferer. The duration of the disease is generally from fifty to sixty hours, though in some cases it lasts six or seven days.

CAUSES. “The disease in animals may be either *spontaneous* or *communicated*. In man, it probably

never arises spontaneously, and perhaps in no animal does it originate in this manner, except in those of the dog or cat kind."

225 ¶ TREATMENT. *Rabies* is perhaps decidedly beyond the control of the healing art. The most important part of the treatment, is the preventive. Whenever the part bitten can be freely excised, this must be done as speedily as possible. When excision cannot be performed, the red hot iron should be applied, so as to disorganize the whole wounded surface. Before cauterizing the part, it is best to have the wound well washed with water, scarified, and then cupping glasses applied over the part so as to extract, as far as possible, the poison. In parts where the hot iron cannot be employed, the fused potash, lunar caustic, or chloride of zinc, may be chosen. A tight ligature may also be applied a short distance above the wound. The water of chlorine used internally and externally has been recommended. *Beladonna* has had its day and advocates: but time and farther trial has displaced it, to make room for other new remedies.

BOTANIC DEPARTMENT.

75 ¶ THE *indications* and *treatment* consist in full and thorough *courses* of medicine, in rapid succession, in order to relax the system, and thoroughly cleanse it from all the canine virus. The (cot) bath, may be used; and the part which received the poison may be

constantly bathed with a strong tincture of lobelia. The dogs'-bane, sarsaparilla, snake root, and blue ash bark, may be freely used as teas during the whole course. What has been said, in the above treatment, in reference to prevention, may also be practiced.

SECTION VII.

(PALSY.)

226 ¶ EVERY sensitive and motive part of the animal system may loose either its power of feeling or of motion, or of both; hence, palsy consists in a loss or diminution of the power of voluntary motion, affecting certain parts or organs of the body, without a loss of consciousness. Sometimes it is confined to particular muscles, or one entire half of the body, longitudinally or transversely. The most common form is, where the body is affected lengthwise; and it seems to be connected with some morbid change or oppressed state of the brain. Partial palsy of different parts or organs, is no uncommon occurrence; and many parts lose the power of motion, without the loss of sensibility. The causes of palsy are various. Some cases are produced by a morbid change in the brain, or by pressure, either upon the part of the nervous centres whence the nerve originates, or on the nerve itself. Hence, a palsy of one half of the body may take place lengthwise, in consequence of congestion to the brain, caused either by a depression of bone, serum, or effused blood, as in apo-

plexus or dropsy of the brain, &c. It may also occur from some lesion in the back bone, or from cold acting upon the sentient extremities of nerves. Various forms of local palsy may in like manner be induced by disease existing elsewhere, as in the bowels or kidneys. —

PROGNOSIS. This will depend greatly on the character of the morbid condition. If the nerves proceeding to the part be destroyed, no cure can be expected; but if there be merely a compressing cause, it may admit of remedy. Where partial palsy is caused by cold, dentition, or by lead, mercury, or arsenic, it is commonly removeable. \

861 227 ¶ TREATMENT. This will depend on the cause. When it proceeds from congestion of the brain, general bleeding will be indicated. The pulse must be our guide in the employment of this evacuant. If the pulse beat full and hard, blood should be freely and promptly drawn, until the momentum of the circulation be adequately moderated. Purgatives and injections are also highly useful, and where there is undue determination to the head, depletory remedies should be used. In chronic cases, when it is evident that it is dependent upon debility, an opposite course may be pursued. Exciting agents must then be resorted to. Frictions, stimulating liniment, applications and baths, electricity, blisters, moxa, &c., may be regarded as indicated in this form of the disease. In local palsies, mustard, horse radish and spirits of turpentine, &c., have been recommended. Strychnia, given internally, is certainly a valuable remedy. Counter irritants, stimulating and exciting applications, may be regarded as valuable auxiliaries in this complaint. —

BOTANIC DEPARTMENT.

76 ¶ THE *indications* are to restore an equilibrium of nervous action, cleanse out all morbid matter, and in some cases rouse the affected part to its healthy action.

TREATMENT. Much depends upon the state of the system. If the patient be of a full and plethoric habit, and the vital powers excessive, the antispasmodic teas, bath, purgatives, injections, and diaphoretic remedies ought to be used. If, however, the system is below its natural standard, stimulants, tonics, local and general, will be strongly indicated. Frictions, electricity, stimulating applications, and exciting liniments will contribute much to restore the healthy functions of the part, or of the whole system. —

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SECTION VIII.

(DELIRIUM TREMENS.)

228 ¶ THIS remarkable disease is quite common, and is owing to the abuse of spirituous liquors, opium, and other narcotics. It consists essentially of *delirium* with *tremors*, and is characterized by inquietude, watchfulness, delirious loquacity, and sensorial illusions.

SYMPTOMS. The whole nervous system is thrown into the greatest irregularity and tremulous excitement,

and the mind is completely unhinged. The patient becomes irritable, restless, and watchful. He fancies that he sees annoying objects in the room, or hears strange noises around him; he often walks to and fro, vociferates loudly, and exhibits signs of the greatest terror and alarm. These symptoms generally continue two or three days, and then pass off.

CAUSES. Abuse of alcohol or opium, is, doubtless, the cause, and in almost all cases, it supervenes on the *withdrawal* of the accustomed stimulants.

229 ¶ TREATMENT. *Mania a potu* appears to be caused by a withdrawal of stimulants to which the nervous system has been accustomed. Then, of course, the best mode of removing it, is to supply a stimulus which may be capable, at once, of blunting and exhausting the morbid sensibility of the sensorium. For this purpose, opium is decidedly the most valuable remedy we possess; it may be regarded as the sheet anchor of our hopes. Most cases, however, can be remedied by a nutritious and easily digestible diet, and the exhibition of an emetic occasionally. The bowels should be kept open by purges, and the patient should remain quiet and tranquil in his room.

BOTANIC DEPARTMENT.

77 ¶ THE *indications* consist in restoring the functions of the nervous apparatus; and building up the sinking energies of the vital system.

TREATMENT. For the time being, it is best to give some diffusible stimulant, and then commence with emetics, injections, the bath and diaphoretic remedies, supporting the system with tonics, alteratives, &c., nutritious and easily digestible articles of food must be employed for some time. No hopes of a perfect cure can be reasonably entertained unless the patient will abstain from all intoxicating liquors, and conform to the strictest rules of temperance and sobriety.

SECTION IX.

MENTAL DERANGEMENT.

230 ¶ **MENTAL** alienation may consist in: 1st, *perversion*; 2nd, in *loss* of intellectual and moral faculties. Under the *first* may be comprehended:

1st. *Mania*, in which the intellect is completely perverted on all subjects.

2nd. *Monomania*, or partial insanity, in which the perversion is restricted to one subject.

3rd. *Moral* insanity, which consists in a morbid perversion of the natural feelings, affections, inclinations, temper, habits, without any remarkable disorder of the intellect, or knowing faculties, or insane hallucinations. Under the *second*, may be included:

1st. *Dementia*, in which the intellect has been destroyed.

2nd. *Idiocy*, where the privation has existed from birth.

1 s t :— M A N I A .

231 ¶ THIS form of mental derangement usually commences with some aberrations in the tastes, notions and actions of the individual. These may continue for a longer or shorter period, after which the disease becomes rapidly formed. Reason entirely forsakes her seat, and the insane talks incessantly and incoherently. His feelings and actions are indeed of the strongest character. Some are gay, timid, wild, frank, and humble; others are sober, dull, passionate, cunning, mischievous, and haughty; whilst others, again, have an irresistible propensity to destroy themselves, their fellow creatures, or the objects surrounding them, or are engrossed with melancholic, religious, erratic, or other forms of alienation. He is eccentric in his conversation, sleeps but little, and is harassed by frightful dreams, sees objects, and hears voices, that have no existence; remains in the cold until his limbs are benumbed, and fasts for an incredible period, without uttering any complaint. When the disease is once completely developed, the expression of the countenance is wild and often ferocious; the eyes are prominent, sparkling, and in constant motion, and he is generally watchful, restless, and in constant action. The disease may be continued, intermittent or remittent. A single paroxysm may continue from a few days to several months, before it terminates in a remission, intermission, or in death; or it may recur at regular intervals of a day, a week, a month, or a year, and then pass into a chronic form, with little or no distinct exacerbations.

2ND:—MONOMANIA.

232 ¶ MONOMANIA consists in a state of partial insanity — the patient being insane upon some one subject, only with a full and regular use of his intellectual faculties upon all, or nearly all, other subjects. This is by far the most common form of mental derangement, and is entirely free from delirium or paroxysms of raving. This comprehends many varieties. In *ambitious monomania*, the patient believes himself a king, or some exalted personage. In the erotic form he adores some imaginary or real being; in the religious, he is perpetually praying, or believes he is supernaturally called to preach; in the misanthropic, he is plotting destruction against his fellow men; in the fanatical, he has an unalterable belief that he is destined to make some great discovery, as the perpetual motion, philosopher's stone, or that he is the legal heir of crowns and hereditary honors; in the hypochondriacal, the hallucination relates to the patient's own body, fortune, or happiness. He believes himself afflicted with certain incurable and fatal diseases, particularly with consumption, cancer, or the stone; or he fancies that some poison has been maliciously introduced into his system, or that he has a living animal, or some other injurious substance in his stomach or bowels. Some patients believe themselves transformed into inferior animals, as dogs, cats, wolves; others again imagine themselves converted into trees, candles, glass, butter, wax, &c. Persons have been known to pursue their professional

duties, or attend to the common avocations of life, for months and even years, although laboring under this fixed hallucination.

3 R D : — M O R A L I N S A N I T Y .

233 ¶ THIS is a form of mental derangement consisting in a morbid perversion of the feelings, affections, and active powers, without any illusion or erroneous connection impressed upon the understanding. The whole moral character of the individual is changed. The symptoms which mark this form consist in singularity, waywardness, and eccentricity of character, tendency to gloom and sadness, or to preternatural excitement, and to unusual prevalence of angry and malicious feelings, and to a propensity to commit every species of mischief and unruly acts.

1 S T : — D E M E N T I A .

234 ¶ DEMENTIA signifies without mind. This form of imbecility occurs in the course of life, and may make its first appearance in old age, constituting *dotage*. It generally takes place progressively, and is characterized by total incoherence of ideas, and absence of all faculty of reflection, and he drags on a vegetative existence of the most hopeless and deplorable character.

2 N D : — I D I O C Y .

235 ¶ THIS variety of imbecility is dependent on impairment or defective development of all the intel-

lectual faculties. The vacant stare of the eyes, the mouth open, with imperfectly developed head, mark the idiot, which cannot readily be mistaken. It is most generally congenital, and is the most hopeless form of mental disease.

236 ¶ CAUSES OF MENTAL DERANGEMENT. The *predisposition* to insanity, is, in many instances, very evidently dependent on an *hereditary* peculiarity of organization, and is apt to appear in different individuals of a family at a particular period of life, generally between twenty and thirty years of age, and it has been remarked that they generally have had dark colored hair. The *exciting* causes are usually divided into *moral* and *physical*, or into those which affect the animal organization through the medium of the mind, and those which act directly upon the body. Of the former kind are intense mental application to one subject, violent rage, jealousy, sorrow, terror, disappointed love, ambition, protracted mental depression, and religious enthusiasm. Grief, distress, want, and disappointed love, are decidedly the most common exciting causes of insanity. Among the causes that act indirectly upon the body, the following are the principal. Intoxication, suppressed habitual or excessive discharges, irritation of the alimentary canal, blows or falls on the head, apoplexy, epilepsy, parturition, solar heat, various positions, healing up of old ulcers, and various forms of acute diseases. We are not altogether acquainted with the mysterious connection between mind and matter, but it is enough for our purpose to observe that all perceptions of the mind, and consequently all the materials upon which alone

it can exert and manifest its powers, are derived from impressions communicated to it through the medium of the body. In whatever part of the body the primary irritation or morbid condition may be located, it must, however, always be communicated to the *brain*, the mental organ, before the intellectual faculties can be deranged; and the proximate cause of insanity may therefore be regarded as consisting in morbid cerebral excitement, existing either as a symptomatic or primary affection.

237 ¶ PROGNOSIS. The ratio of *cures* diminishes largely as the disease is more protracted. During the first year of insanity, the cures are about eighty-two and a half per cent.; during the second year, about thirty-eight per cent.; and after the third year, the probability of cure is scarcely more than one in thirty. Relapses are very common in mental diseases; the proportion is about one in ten, and it seems that they are more apt to occur during the spring and summer months, particularly at those seasons in which the disease had made its attacks in the first instance. In general, acute and furious mania is much more under the control of remediate treatment than low, torpid and fatuous insanity. Mental derangement from physical causes, yields more readily and permanently, than when it arises from moral causes.

238 ¶ TREATMENT. The treatment of insanity may be divided into *moral* and *medicinal*.

1st. *Moral Treatment*. In all cases, the first measures of the treatment of mania should be to remove the patient from his friends and his home, and to place

him in some quiet and secluded situation. It is now the universal sentiment among the informed, that no case can be as satisfactorily treated in a private house, as in establishments fitted for that purpose, where attention is paid to proper classification: the furious are always separated from the more peaceable, and the convalescent are allowed a quarter of their own. Confined to a regular life and discipline, the "patients are naturally led to reflect on their change of situation, while the necessity of living among and submitting to the control of strangers, is to them a powerful stimulus to regain their lost freedom and reason. When thus confined, the medical attendant must, in the first place, endeavor to obtain the confidence and good will of the patient." He must enter into their feelings, and moderately yield to their hallucinations. Having gained the patient's confidence, he must endeavor to take an interest in their real or imaginary pleasures and pains; soothe and admonish them in a tone of kindness and affection, and appear among them not as a stern ruler, but as a kind and sympathizing friend and protector. He must soothe the irritable, repress the insolent, cheer the desponding, calm the excited, check the forward, encourage the timid, visit the importunate and petulant, but carefully attend to all reasonable requests. When patients fancy they labor under some annoying disease, or have some living animal within them, you should never cross their views, but humor their hallucinations, and endeavor to excite their ideas or passions, in the direction opposite to their delusion. You should also fix their attention on objects foreign to their delusion, and communicate to their minds new ideas and emotions by varied impressions.

239 ¶ MEDICINAL TREATMENT. When the patient is young and vigorous, with redness of face, strong and frequent pulse, general blood-letting may be employed with much advantage, and be pushed to such an extent as to decidedly affect the system. Whenever the heat of the head is very great, the use of cold water, or ice in a bladder, may be resorted to with advantage. The dauche is certainly one of the very best tranquilizers that can be employed. A column of water, of the size of the arm, or even less, made to fall from a height on the head of the furious maniac, will almost always tame him. Blisters applied to the nape of the neck, or setons and issues have occasionally been productive of much good. Active purges, and when much torpor exists, emetics may be given with positive advantage. Nauseating doses of tartar emetic and ipecac have been recommended highly by some physicians, and there can be no doubt, where the state of sedation is produced, but that it may prove very beneficial. Digitalis and the warm bath have been much used in the treatment of mania. The circular swing has also been employed, and it is reported to have produced wonderful good effects in some cases. The diet must be regulated according to the indications and the previous customs of the patient.

BOTANIC DEPARTMENT.

78 ¶ The most prominent *indications* of management consist in: 1st, ascertaining the cause, relaxing

and lessening the organs that are in excess; 2nd, equalizing and rousing the parts that are debilitated; 3rd, morally and medicinally changing the mental and physical operations of the vital system.

TREATMENT. The whole system should be from time to time relaxed by lobelia, antispasmodic teas, and the bath. The bowels must be kept open and free with alterative and brisk cathartic injections, &c. The stomach and digestive organs must be rendered active and free with emetics; the skin and surfaces moist and pliable, with suitable sweating means; the head cool and unirritated by cold applications, and the cold dash of water occasionally to the top of the cranium. Electricity, galvanism and animal magnetism may be frequently applied to the head, and especially to the antagonistic organs mainly affected. The moral manifestations must be aroused and steadily kept active, by suitable conversation, music, and scenery; the physical system must be rendered healthy, by food, drink, sleep, and proper exercise.

CHAPTER XII.—SECTION I.

BLEEDINGS.

240 ¶ INVOLUTARY discharges of blood may take place from three great cavities or divisions of the body, the head, the chest and the abdomen. It may be regarded rather as an accident or a *symptom*, than a state of disease. Blood, from whatever organ it flows,

may have two causes for its issue. The vessel, may be ruptured by a morbid *distension* and *impetus*, or they may give away from *debility* and *relaxation*, their tunics breaking without any peculiar force urged against them, or their exhalents admitting the flow of red blood instead of the more alternate serum. To the former description of hæmorrhage or flux of blood, Dr. *Cullen* has given the name of *active*, and to the latter that of *passive*. Active hæmorrhages occur most frequently in young, plethoric, and irritable persons, and in those who are constitutionally predisposed to strong irregular determinations of the blood to particular organs. They occur in inflammatory fever, either as accidental or critical evacuations, and in this case they are always to be regarded as favorable. *Passive* hæmorrhages mostly occur in relaxed, exhausted and irritable conditions of the system. They are apt to take place in scurvy in debilitated females, at the critical period of life, and in the stage of collapse of malignant and other typhus forms of febrile diseases.

241 ¶ CAUSES. The great predisponent cause of active bleedings, wherever they make their appearance, is plethora or congestion. This state predisposes to an afflux of blood, somewhere or other, and hence there must be a distinct local cause, that fixes it upon one particular organ, rather than upon another. The chief local cause is a greater degree of debility in the vessels of such organs, and whatever is capable of producing strong local determinations to soft and vascular structures, particularly the mucous membranes, may give rise to effusion of blood. Agents, tending to obstruct the free return of blood to the heart, or that greatly

increase the momentum of the general circulation or exertions that agitate any particular organ. During childhood, bleedings are more apt to occur from the nose; between puberty and the thirtieth year of age from the lungs; in middle life, from the bowels, and in old people, from the bladder.

242 ¶ PROGNOSIS. This depends on the suddenness and copiousness of the discharge, the nature of the organ from which the bleeding occurs, and the character of the occasional causes, or the connection with local or general diseases. This disease is not often fatal from mere loss of blood. The quantity which may be lost without any dangerous or ill consequences, is, indeed, in some instances, surprisingly great. Instances are on record, where sixteen pounds of blood were discharged from the stomach, without any serious consequences, and in other cases, where the quantity lost from the nose in the course of three days, was still greater.

243 ¶ TREATMENT. The principal objects of treatment are four: 1st, to diminish plethora wherever it exists; 2nd, to lessen the force of the heart's action; 3rd, to induce the formation of a coagulum about the ends of the ruptured vessels; 4th, to bring on the contraction of the muscular fibres of the vessel, and of the parts in its vicinity. Upon one or other of these principles, may be explained the mode of action of each of these means which have been found useful in the treatment of internal bleedings. They are blood-letting, and the exhibition of sedatives, as nitre, digitalis, cold, &c., counter irritating and revulsive applications, such

as cold applied to the part from which the blood flows, and blisters, warmth and irritating frictions on remote situations. Another object may be answered by the use of astringents, such as sugar of lead, alum, muriated tincture of iron, and mineral acids; and lastly, opium, and in some cases, tonics.

244 ¶ BLEEDINGS FROM THE NOSE. This is by far the most common variety. *Epistaxis* occur most frequently in early life, particularly about the age of puberty. On being called to a case, if it occurs in consequence of fever, piles, or suppressed menstruation, it ought not to be interfered with unless it becomes excessive. Where it becomes necessary to check the discharge, bleeding, rest, with the head in an elevated position; cold drinks, laxatives, and especially nitre, given in large doses, will be particularly beneficial. In moderate cases, it will often be sufficient to apply cold water to the head, temples, and nape of the neck. The *Galic acid* is said to be a very powerful *styptic* for the cure of this and other varieties of internal bleedings. From one to two grains of sugar of lead may be given every half hour, until the bleeding is checked. This is decidedly the best internal astringent in every form of active bleeding. In obstinate and alarming cases, the nostril may be plugged up with a dossil of lint, dipped in some astringent solution, and passed up to the part from which the blood issues.

245 ¶ BLEEDING FROM THE STOMACH. This is not of frequent occurrence, and when independent of disease in some other organ, is not a very serious affection. In hæmatemesis, the blood is evacuated from the

stomach by the act of vomiting, and is usually intermixed with some of the contents of the stomach.

TREATMENT. The momentum of the circulation must be diminished by bleeding, when it is above the natural standard. Saline purges and injections should be administered; sugar of lead, common salt, alum, whey, muriated tincture of iron, cold water, and a variety of vegetable astringents. Vegetable infusions have been employed, and praised for their good effects. The patient should be placed upon a dry diet, and when drink is absolutely necessary, bland, cool, and acidulated ones should be used.

246 ¶ **BLEEDINGS FROM THE LUNGS.** Hæmoptysis, or spitting of blood, is by no means a common occurrence, and although always an alarming disease, inasmuch as it is often the announcement of the existence of pulmonary consumption. The discharge of blood is of a florid color, and often frothy, and is occasionally brought up with more or less coughing and hawking.

DIAGNOSIS. The disease with which it is most likely to be confounded, is bleeding from the stomach. The blood from the lungs is generally in small quantities, and of a florid color, mixed with a little frothy mucus, only, and is usually discharged by coughing and hawking, whilst that from the stomach is thrown out in considerable quantities, and is more dark, and mixed with the other contents of the stomach, and generally brought up by the act of vomiting.

247 ¶ **TREATMENT.** When the pulse is frequent, tense, or hard, the momentum of the circulation should

be immediately reduced by bleeding, and to effect this purpose adequately, it is often necessary to abstract blood very copiously. The use of ice, nitre, and nauseating doses of tartar emetic and ipecac, are agents which possess considerable power in arresting this complaint. Digitalis, sugar of lead and prussic acid are much used for the purpose of checking this discharge. In all cases, large irritating plasters should be applied all over the breast, and the cold infusion of wild cherry bark ought to be constantly used, until the disease is permanently cured. Rest, cooling and acidulating drinks, mild diet, and an equable temperature should be strictly observed.

N. B. Floodings and other uterine diseases are treated of in another volume.

BOTANIC DEPARTMENT.

79 ¶ THE most prominent *indications* of management are: 1st, to equalize the circulation and nervous action; 2nd, to constrict the mouths of the bleeding vessels, and invite the blood to other parts.

TREATMENT. This will depend much upon the state of the system, and the part affected. A weak tea of lobelia will generally quiet the sanguiferous and nervous system, and the action of the bath will determine the action of the external surfaces. Astringents, as alum, hemlock, oak bark, nut-galls, &c., will occasionally be found useful. It is frequently the case, that cold applications and a proper position will check the flow of blood, whilst others again are to be remedied

upon the principle of counter excitants, proper warmth, and tonic remedies.

Hæmorrhage from the nose is often relieved by cold applications to the head, neck and temples; finely powdered gall nuts introduced into the cavity of the nose, or a dossil of lint dipped into a strong solution of witch hazle or bayberry, and passed up into the nose, will frequently arrest the discharge.

Hæmorrhage from the stomach. This form of disease may be frequently remedied by alum whey, table salt, and vegetable astringents, and cool acidulated remedies.

Hæmorrhage from the lungs, may generally be met by nauseating doses of lobelia, external irritating plasters, cooling and astringent articles of medicine, mild diet, uniform temperature, and perfect quietude.

CHAPTER XIII.—SECTION I.

DROPSY.

248 ¶ DROPSY is a preternatural or morbid accumulation of a serous or watery fluid in some part of the body, impeding or preventing the functions of life. Infants, youth and adults, are equally liable to those effusions in the various cavities of the body. The chief immediate cause of dropsical complaints consist in an *increased exhalation* and *diminished absorption*. The condition of the system in dropsy is closely allied, or nearly identical with that of inflammation. It has

been noticed that nearly all inflammations of the serous membranes, if not very violent, terminate or end in effusion, unless they speedily return to a state of health. Watery swellings have received different appellations, according to the particular situation in which they are located. Before entering upon a distinct view of the history and treatment of these several species, it may be convenient to give a glance at the general pathological principles which apply to the whole. All dropsies proceed from similar causes, and the treatment is nearly the same, varying only to suit the age and condition of the patient.

249 ¶ CAUSES. The predisposing causes are: scarlet fever, measles, and mercurial excitements. The occasional causes are: mechanical obstructions to the free return of blood to the heart, the influence of cold, excessive evacuations, suppressed habitual discharges, chronic diseases of the liver, kidneys, and long continued intermittents; chronic diseases which tend to exhaust the system, or whatever powerfully disposes the body to a state of relaxation.

SECTION II.

GENERAL DROPSY.

250 ¶ THIS form of dropsy consists in a morbid collection of serous fluid in the subterraneous tissue; and this accumulation may be either generally diffused

throughout the whole body, or confined to a greater or less extent. This variety of dropsy shows itself at first with a swelling of the feet and ankles, towards evening, which, for a time, disappears again in the morning. By degrees the swelling ascends upwards, and occupies the thighs and trunk of the body, and at last even the face and eyelids appear full and bloated, the breathing then becomes difficult, the urine is small in quantity, high colored, the belly is costive, the countenance yellow, thirst, emaciation, sluggish and languid state of the system. In *anasarca* the skin is paler, and when pressed upon with the finger, retains its mark for some time.

251 ¶ PROGNOSIS. This form of dropsy is not often attended with much danger, unless connected with organic disease, and it is much more frequently removed by remediate treatment, than the other forms of dropsy. The more rapidly the disease supervenes, the more easy in general it is removed.

SECTION III.

DROPSY OF THE CHEST.

252 ¶ THIS disease comes on slowly, and is more frequently a disease of advanced life. It is sometimes a primary affection, but more frequently it is symptomatic of organic disease of some viscus of the chest or abdomen. It is very difficult to detect the disease in its

incipient stage. The most prominent and certain sign is a fluctuation of water, being perceived in the chest either by the patient himself or his medical attendant, on certain motions of the body.

253 ¶ SYMPTOMS. Difficulty of breathing, particularly when in a horizontal posture, sudden startings from sleep, palpitation of the heart, cough, paleness of visage, swellings of the lower extremities, thirst, urine scanty and high colored, difficulty of lying on the side when effusion does not exist, general agitation, and a sense of suffocation when firm pressure is made on the abdomen, just below the ribs, so as to push up the contents against the diaphragm.

PROGNOSIS. Primary *hydrothorax* is not often a dangerous or unmanageable affection. In the symptomatic variety we more frequently succeed in removing the effused fluid; but this seldom affords permanent relief, since we can but very rarely thus remove the organic disorder upon which the effusion depends, and which consequently, still continues to take place, and give rise to further accumulation.

SECTION IV.

DROPSY OF THE ABDOMEN.

254 ¶ THIS disease is marked by a tense swelling of the abdomen, accompanied by an evident fluctuation. It is often preceded by loss of appetite, dryness of skin,

oppression of the chest, difficulty of breathing, cough, high colored and scanty urine, costiveness, and the fluctuation of water may be observed by applying one hand on the side of the abdomen, and then stroking the other side with the other hand.

255 ¶ DIAGNOSIS. The only condition likely to be mistaken by *ascites* is, pregnancy, and encysted dropsy of the ovary. From pregnancy it may be distinguished by the fluctuation, the uniformity of the tumor, the oppression of breathing on lying down. In dropsy of the ovary the swelling is more partial and more prominent in some part of the abdomen than another; it begins lower, and the intestines being pushed to the part opposite the tumor.

TREATMENT OF DROPSY.

256 ¶ THE principal *indications* are: 1st, to subdue the local inflammatory or irritated action of the structure from which the dropsical exhalation takes place: 2nd, to promote the absorption and removal of the effused fluid: and, 3rd, to restore the tone of the system and strengthen the general habit. The first indication may generally be answered by blood-letting, which may have to be practiced and even repeated more than once. Bleeding not only reduces the over-excitement, but, as already remarked, is one of the most powerful promoters of absorption we possess. Accordingly, the dropsy has occasionally yielded, as if by enchantment, to blood-letting. On the other hand, if the infiltration occur in a person whose circulation is feebly carried on, blood-letting may be decidedly improper,

and can indeed, have no other effect than that of augmenting the evil. Local abstractions of blood and blistering, are useful auxiliaries in the treatment of dropsy of the chest and abdomen. The second indication can be answered by active and brisk cathartics, diuretics, and revulsives. It has been discovered that much benefit can be derived by a combination of purgatives, with such articles as operate upon the urinary organs. Jalap and cream of tartar form an excellent preparation. Gamboge, scamony, and elaterium alone, or associated with cream of tartar, juniper berries, or colchicum, may be used with considerable advantage: calomel squills and digitalis in combination, form an excellent hydragogue preparation, and may be continued until it affects the mouth slightly.

257 ¶ I have uniformly succeeded better in drop-sical complaints, with the Indian arrow-root, than any other agent. It possesses tonic, and, in very large doses, very powerful purgative and diuretic properties. Dropsies which follow intermittent and eruptive fevers, are often benefitted by the use of quinine and the different preparations of iron. The cause and state of the system should always be considered, before entering upon the treatment; and if there is preternatural excitement, bleeding should be resorted to; after which, active purgatives, in combination with the best diuretics, should be continued daily, or every other day, according to the strength and urgency of the case, until convalescence is established. It often becomes necessary in debilitated states of the constitution, to support the system by tonics. A mild milk diet should be used throughout the whole course of the disease.

BOTANIC DEPARTMENT.

80 ¶ THE *indications* are: 1st, to equalize vital action: 2nd, promote absorption, and carry off the accumulated fluid: and 3rd, to stimulate the surface to a healthy action, and restore energy to the whole system.

TREATMENT. The system must be relaxed and changed, by the action of lobelia, the vapor bath, and other relaxing teas. Then hydragogue cathartics, as gamboge, May-apple, jalap, bitter-root, &c., in combination with diuretics, as squills, juniper berries, elder bark, &c., are exceedingly useful, and must be given from time to time throughout the whole course of the disease. A very strong tea of Indian arrow-root, given once a day, or every other, according to the strength of the patient, will often succeed, when other articles fail, provided it be given in quantities sufficient to secure active purgative effects. In debilitated states of the system, tonics must be combined with the best diuretics. The courses of medicine, in conjunction with active purgatives, diuretics, and other auxiliary remedies, must be promptly and continually applied, until every vestige of accumulation is removed; and then tonic remedies must be continued until the general health is fully and completely established.

CHAPTER XIII.—SECTION I.

VENEREAL DISEASE.

258 ¶ THIS ancient disease is peculiar to the human species, and is always produced by a specific poison, applied to the human body, generally in the act of coition, though any part of the body is capable of receiving it, when applied to a denuded surface. The infection is almost always sure to show itself first in that part to which the matter is applied; and, as the disease most generally arises in consequence of an intercourse between the sexes, so the symptoms usually show themselves first in or about the organs of generation. There are two distinct species of this disease: one is termed the clap, and the other the pox.

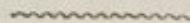
259 ¶ THE CLAP. Generally, in three or four days after an impure connexion, a disagreeable itching or prickling sensation is felt in some point of the urethra, passing a short distance up from the orifice, particularly on passing water. The mouth of the urethra becomes inflamed and swollen, and a limpid or yellowish matter begins to ooze from it. Frequent and powerful erections harass the patient—more especially after he has been some time in bed; and on voiding urine the pain is, in some instances, exceedingly smarting. In acute cases the suffering is considerable and the inflammation does not terminate for two or three weeks.

260 ¶ TREATMENT. Should the inflammation be intense, it may be necessary to draw blood from the arm, and diluent drinks may be freely allowed. The bowels should be kept freely opened by salts or oil, for some days, or until the febrile symptoms disappear. Castor oil is decidedly the best purge that can be administered. Low diet and rest of body is of course all important. With a view to cut short the disease before the acute stage has commenced, and to arrest it after it has been appropriately treated by antiphlogistics, two grains of the nitrate of silver to the ounce of water, may be occasionally injected into the urethra. The strength of the solution may be gradually decreased or increased, so long as no irritation is induced. The muriate of mercury or the chloride of zinc also forms good injections. When the inflammatory action of the system has been sufficiently subdued by the antiphlogistic plan, a combination of equal parts of balsam copaiva, tincture of cloves, and spirits of nitre may be given three or four times daily. A table spoonful is a sufficient dose. Where there is much pain in passing the water, it would be well to add a few drops of laudanum to each dose. When *gonorrhæa* is followed by an obstinate gleet, the spirits of turpentine may be combined with the above formula, or chloride of lime may be given internally, and used as an injection. Also the iodide of iron, or creasote water may be substituted for injections.

BOTANIC DEPARTMENT.

81 ¶ THE *indications* consist in: 1st, equalizing and subduing the inflammatory action of the system; 2nd, restoring the local discharge, and altering the state of the secretions.

TREATMENT. The relaxing teas, as lobelia, sage, spearmint, and balm should be given, and then the vapor bath should be administered, after which the bowels may be freely purged. The patient may drink cool and diluent drinks, as sassafras, water melon seed, parsley root, sarsaparilla, &c. When the inflammatory stage has passed off, warm water, in conjunction with some mild astringent, may be resorted to as injections; a tea, made of cloves and bayberry may be freely drank; the stimulant balsams, as copavia, &c., may be frequently used with considerable benefit. The patient should be careful to abstain from all animal food, or irritating articles, remain quiet, and free from any excitable passions or propensities.



P O X .

261 ¶ 2nd. THE POX. At an uncertain period, varying from a few days to several days or weeks, after an impure venereal intercourse, one or more small pimples, excoriations, or ulcers, called *chancres*, preceded usually with an itching in the part, appear on some part

of the genital organs, groins, or thighs, which discharge a small portion of limpid matter. Another local symptom is the formation of *buboes* on one or both groins, which are hard and painful, generally burst and discharge a copious quantity of pus. The whole constitution, sooner or later becomes contaminated, and affected by this poison. The tunic of the eyes, nose, skin, and throat suffer, and sometimes ulcerate. The appetite fails, the strength decays, and a low hectic fever preys upon, and finally sinks the whole system.

262 ¶ TREATMENT. It must be admitted that the various forms of constitutional venereal affections may, in general, be ultimately removed by a course of mercurial remedies, aided by a proper regimen and other restorative measures calculated to improve the health of the system. The system ought always to be prepared before commencing the use of mercury. All inflammatory conditions should be removed by proper bleeding and purging, regimen, &c.; before commencing with any of the preparations of mercury, Calomel, blue pill, or muriate of mercury may be used for this purpose. It is best to combine either of these preparations with dover's powders and antimonials. in order to expedite their effects, at the same time that mercury is used internally. The mercurial ointment may be freely and largely rubbed in through the skin. Although mercury is the most important remedy we possess for the cure of *syphilis*, there are several other articles highly worthy of attention, as means for removing this disease. Antimonials, sarsaparilla, guaiacum, muriate of gold, and the warm bath, may also be used in conjunction with mercury, or by themselves, and

no doubt in mild cases, they are capable of effecting a cure by themselves. The local ulcers may be washed with solutions of muriate of mercury, nitrate of silver, and chloride of lime. The constitutional effects may afterwards be removed by the use of iodine, but more especially, the hydriodide of potassium, continued for some time.

BOTANIC DEPARTMENT.

82 ¶ THE most prominent *indications* are: 1st, to equalize the inflammatory action; 2d, to remove the virus from the system; and 3d, to heal the local parts, and to invigorate the general system.

TREATMENT. The first thing to be attended to is, to subdue and change the morbid state of the system, with repeated courses of medicine, using the antispasmodic teas, with alternate doses of physic, until the general action of the system is restored. The ulcers and buboes must be poulticed with pond lily, lobelia, slippery elm or comfrey, until they are reduced, frequently washing them with soap suds, alkalies, and astringent lotions. When they are unhealthy, and not disposed to heal, they may be washed with chloride of lime and No. 6, until they assume a more healthy appearance, and then the elder salve will generally heal them. Sarsaparilla, burdock, and wild cherry bark are good articles to be used through the course of the disease. Nothing but an implicit confidence in remedies, and an unyielding perseverance in their use, will effect a radical cure of long standing, and inveterate cases.

CHAPTER XIV.—SECTION II.

SCROFULA OR KING'S EVIL.

263 ¶ SCROFULA consists in hard, indolent tumors of the conglobate glands in various parts of the body, but particularly in the neck, behind the ears, and under the chin, which, after a time, suppurate, and degenerate into ulcers. The disease appears in a great variety of forms and grades of violence, varying from the slightest habitual deviations from health, to the most distressing, rapid, and fatal forms of local and general disease. It is of great importance whether we look to the obscurity of its origin, its insidious progress, the number and variety of organs which it attacks, its remarkable intractability and extensive fatality. It most usually appears between the third and seventh year of the child's age; but it may arise at any period between these and the age of puberty, after which it seldom makes its first attack. Scrofulous persons are often comely and handsome, and rather distinguished for acuteness of understanding, and precocity of genius. It is by no means a contagious disease, but beyond all doubt, is of an hereditary nature, and is often entailed by parents on their children. The patient, it is true, is not born with the disease, but only with a greater aptitude to revive certain morbid impressions, which may bring the latent deposition into action. In a general way, it may be divided into two distinct forms, namely, its *latent* and its *active* states. The former constitutes what is usually called *scrofulous habit*, and the latter the state of full development and activity of the disease.

264 ¶ THE SCROFULOUS HABIT is marked by a peculiar delicacy and languor of the countenance, soft rosy tint of the cheeks, and swollen appearance of the upper lip; the hair is generally fair and the eyes blue or black; the edges of the eyelids are disposed to become inflamed; the posterior part of the head is generally large; the disposition to catarrhal affections, and frequent swellings of the face, neck, and other parts of the body; excoriations behind the ears; scabby eruptions about the head and lip; the appetite variable; digestive powers weak and irregular; the growth of the body is slow, whilst the mental powers are astonishingly active. In the *active stage*, the disease manifests itself by indolent glandular tumors, chiefly in the neck, sometimes in the breast, eyes, arm pits, groins, &c. They generally ulcerate, leaving uneven and irregular scars. The internal organs likewise become affected; the mesenteric, salivary, and most of the glandular structures. The bones, cartilages, joints, and soft parts of the nose, palate, and fauces, are more or less rapidly destroyed by ulceration. There is, in short, scarcely any part of the body which is not sometimes the seat of the frightful ravages of this affection. The most common forms of scrofula, however, are *tubercular consumption*, *white swelling*, disease of the *eyelids*, *hip*, *knee* and *joints*.

264 ¶ CAUSES. *Scrofula*, or rather a predisposition to this disease, is one of those constitutional habits or tendencies, which often occur in children, as an hereditary diathesis. This, however, is not the only source of scrofulous habit; for, that it may be *generated* in individuals, originally of sound constitutions, climatic

and atmospheric influences, impure and confined air; deficient and unwholesome food, and various diseases, possess a tendency to give rise to this disease. Whatever tends to arrest the full and complete development of the animal organization, or suspend its healthy, natural and accustomed operations, may generate scrofulous affections.

266 ¶ PROGNOSIS. Where the predisposition is hereditary, the chance of subduing scrofula, after it has manifested itself in an active form, is always extremely small; nevertheless, it is a fact, well established, that moderate cases disappear entirely about the age of puberty, or after the corporeal development is completed, and the age of manhood has arrived. Severe febrile affections have been known to remove incipient scrofula in habits obviously predisposed to the disease; but it is vastly more common to find the disease more or less rapidly developed by violent febrile affections—more especially, measles, scarlatina, and small pox. Medicine, regimen, and proper temperature, will do much to prevent its development, and remove it from the system.

267 ¶ TREATMENT. This naturally divides itself into the *hygenical and therapeutical*. The former consists in avoiding the various exciting causes, and changing, as far as possible, by diet, the functions of digestion, perspiration, secretion, hepatic, intestinal, and cuticular. The patient should enjoy a pure, dry, and equable air; his clothing should be such as to secure a proper and equable temperature; his food and drink should consist of nourishing, digestible, and unirritating articles; his exercise should be regular in the open air,

avoiding damp chilly night air, late hours, all excesses; and, as far as practicable, he should enjoy a mild, regular, and healthy climate, and keep his excitable passions and propensities in regular subordination. With regard to the *medical* treatment, whether for latent or active scrofula, the prominent indications are: to restore and maintain the integrity of all the nutritive functions. The remedies to be employed belong mostly to the class of tonics and alteratives. The various mineral and vegetable preparations, as gentian, columbo, the leaves of walnut, and other bitters, chalybeates, and other mineral remedies of the class, have been beneficially administered, but they are far inferior to those of the second class. Of these, the one that has been the most extensively used, and, in the opinion of many, has been most useful in *iodine*, in some of its various forms of preparation. Dr. Lugol considers iodine to be the most efficacious remedy we possess. He especially recommends the watery solution (which bears his name) internally, and the baths of iodine externally. An excellent preparation is made by taking iodine, one scruple, iodide of potassium, two scruples, soft water, seven drachms, dissolve together. Dose ten drops, gradually increased three times a day, in sweetened water. In no case may we expect benefit before several weeks has elapsed. When we have reason to believe that it is associated with a venereal taint, it is best to combine it with small doses of mercury. If pus is formed, it should be early evacuated by an incision made with a lance. The chloride of lime has been applied to the ulcers, or indolent swellings, with advantage, in the form of an ointment, as well as the tincture of iodine, or its various ointments.

BOTANIC DEPARTMENT.

83 ¶ THE *indications* are: 1st, to change the functions of digestion, secretion, excretion, vascular, nervous and cuticular; 2nd, to reduce the tumors, heal the ulcers, give strength, tone, and action to the whole system.

TREATMENT. These ends are to be effected by means of a general course, and the alterative plan of treatment. The baths should be frequently used medicated with aromatic and antiseptic articles. The strictest attention ought to be paid to the quantity, quality, and due mastication of the food. The drinks should be mild and unirritating, the clothing warm, the exercise regular and free in the open air. The local ulcers may be poulticed with pond lily, charcoal, gum myrrh, and the dregs of No. 6, and when they assume a healthy appearance, they may be dressed with elder salve, sweet gum, or chloride of lime. Besides regular courses of medicine, the general system may be supported by gentle tonics, as columbo, gentian, burdock, sarsaparilla, wild cherry bark, and other mild and nutritious articles.

SECTION III.

SCIRRHUS OR CANCER.

268 ¶ A SCIRRHUS, is characterized by a hard and almost insensible tumor of a glandular part, indolent, and not readily suppurating, and may be regarded as the occult or primary stage of cancer. The part is knotty and irregular to the touch, the skin not discolored, slight, acute, and lancinating pain in the part. It is probable that any gland in the living body may be the seat of a scirrhus and cancerous disease, but it appears more frequently as a primary affection in those glands, of the several secretions, than in the absorbents. At length a tendency to cancerous ulceration becomes obvious.

A *cancer* is an ulcer of the very worst kind, with an uneven surface, ragged and painful edges, and, which spreads in a very rapid manner, discharges a thin acrimonious matter, that excoriates the neighboring integuments, and has a very fœtid smell. It is mostly confined to the glands, and particularly the testes, mammæ, womb, as likewise in the face, lower lip, angles of the eyes and nose, organs of vision, tongue, scrotum, and other parts that are thinly covered with flesh, and which are at the same time a good deal exposed to external irritation. Persons after the age of forty-five, particularly women, and those who lead an indolent sedentary life, are most subject to this disease.

269 ¶ SYMPTOMS. A scirrhus tumor is generally first formed, and, in process of time, it begins to form adhesions to the surrounding parts, and the skin becomes inseparately connected to the tumor beneath it, and in a little time more, it may be observed to have acquired a slight tinge of redness, and some degree of uneasy and painful sensation is felt in it. The subcutaneous veins enlarge, and the whole surface of the swelling puts on a purple shining appearance, and in this state it continues with but little change till ulceration takes place, and a quantity of corrosive ichorous matter is discharged. The ulcer becomes deep, irregular, and excavated, attended with a gnawing, burning pain, and an intolerable fetor or disagreeable stench, the appetite fails, the strength becomes exhausted, hectic fever supervenes, and the system sinks under its loathsome burden.

CAUSES. Among the exciting causes may be mentioned,—suppressed evacuations, depressing passions, indolence, celibacy, barronness, irritants, external injuries, colds, &c.; sometimes the disease may be owing to an hereditary disposition.

270 ¶ TREATMENT. One misfortune attending the disease is, that the unhappy patient often conceals it too long. When any gland has become enlarged, indurated, and shows a tendency to scirrhus, we should, from the earliest period, use our utmost exertions to discuss it, if possible, or at least to prevent its further increase. Scirrhus tumors are often removed with perfect safety, and thereby prevented from degenerating into true cancers, when extirpation is not delayed too long. The knife or caustic will effect this object, unless they occur in such parts as will not admit of either. The patient

should regulate his diet and put himself on the antiphlogistic and alterative plan of treatment. Small doses of calomel and antimony may be taken until the mouth is slightly affected; sarsaparilla may be freely taken, and opium, cicuta, or belladonna, to allay the pain and usual irritation.

The iodine is certainly of great use in the treatment of scirrhus and cancerous affections. The internal and external employment of small doses of arsenic, has been long used in cancer; and no doubt if proper care is observed, in its administration, much may be done by it. The different preparations of iron have often afforded much relief: nitric acid has also been highly recommended, particularly in affections of the tongue. As a topical application in external cancer, lint dipped in a solution of the sub-borate of soda, and applied to the ulcerated surface, renewing it as often as it becomes dry, has not unfrequently been attended with a good effect. The parts affected should be shielded from the atmospheric air, and kept as much as possible in an equable state.

(BOTANIC DEPARTMENT.

84 ¶ THE prominent *indications*, in the incipient stage are: to cleanse the general system of morbid matter, promote absorption, secretion, and dissolve the semi-vital or cancerous matter, and heal the morbid parts.

TREATMENT. Courses of medicine, relaxing, tonic,

and alterative doses should be frequently administered. When the tumor is solid, emollient and disculent applications to the affected parts. Should the part diseased not yield by these remedies, more potent means may be used. The tumor may be washed with corroding articles, as strong acids, or alkalies, or plasters of potash, or the extract of wood sorrel may be applied to them, until the diseased surfaces have suppurated and cast off the ramifications, vessels, and cells, and then the parts may be healed with elder salve, sweet gum, or some other cleansing and healing articles. When called to a case of cancer already suppurating and corroding, it will be best to kill the different ramifying and irritating vessels with the caustic potash, or extract of wood sorrel, then poultice the parts with chloride of lime, charcoal, slippery elm, until a healthy action is fully established: it may then be healed with elder or any of the emollient salves. The general system should be cleansed, and rendered healthy by courses of medicine, as boneset, burdock, sarsaparilla, dandelion, and other purifying and restoring articles.

SECTION IV.

RICKETS.

271 ¶ THIS disease is known by a large head, prominent forehead, protruded sternum, flattened ribs, big belly, curved spine, emaciated limbs, and great debility. It usually makes its attack between nine

months and two years, seldom appearing earlier or later than these periods. The bones and spine of the back are variously distorted; disinclination to muscular exertion follows. The stools are frequent and loose; slow fever succeeds, with cough and difficulty of respiration; a general wasting is confirmed; a vitiated condition of the solid and fluid constituents of the body, and of the system of nutrition generally. Ossification is imperfectly accomplished. The phosphate of lime in the bones is nearly deficient; the sutures are more open, and finally death ensues. Frequently it happens that nature restores the general health, but leaves the limbs ever after distorted.

272 ¶ CAUSES. Children are unquestionably born with a predisposition to rickets; and that parents may impress their offspring with defective plastic energy. The *proximate* cause seems to be a deficiency of earthy matter, therefore, the bones lose their natural firmness. The most common occasional cause would seem to be, faulty nursing, and all those exciting influences which have been pointed out as productive of scrofulous diseases. Insufficient nourishment, solar heat, air, ill ventilated and damp apartments. *Cretinism* is often connected with scrofula, bronchocele, cachexia, and enlargements of the glands, &c.

273 ¶ TREATMENT. This resolves itself into the *hygienical* and *therapeutical*. The consideration of the etiology of the disease, sufficiently shows the great importance of a properly regulated diet and regimen. Without it, indeed, no good can be effected. The various preparations of iodine, and especially the

iodine, and especially the iodide of iron, have been highly extolled, and are amongst our most valuable curative agents. The barks, wine, myrrh, metallic tonics, and various kinds of tonic bitters, for the purpose of invigorating the system, bracing the solids, and promoting digestion, will be calculated to do much good. Frequent showering, or immersion in cold water, the effects of which may be much increased by friction with flannels, a free, open and dry air, a generous nutritive diet, with wine, cold infusions of wild cherry, columbo, gentian, &c., may be given at the same time. To assist the effect of these remedies, a gentle emetic should be occasionally given, but more especially in those cases where the appetite and digestion are considerably impaired: mechanical means have been proposed for obviating the effects of this disease; but it is nearly fruitless to attempt using any machine with very young children.

BOTANIC DEPARTMENT.

85 ¶ THE *indications* are to change and invigorate the action of the system, and impart tone to the part affected.

TREATMENT. For the purpose of accomplishing these ends, the vapor bath may be freely used, and occasionally, the cold shower bath may be substituted for it. Frictions of hot, stimulating articles to the diseased part, such as No. 6, salt and vinegar, &c., may be freely applied to the local parts, whilst at the

same time, tonic bitters, of the alterative kind, may be given. No. 6, composition and other strengthening ingredients must compose a part of the treatment. Thorough courses of medicine, in combination with emetics, sarsaparilla, burdock, wild cherry bark, columbo, gentian, &c., will prove highly salutary. The diet, drinks, and clothing should be properly regulated, and exercise in the open air may be freely allowed.

SECTION V.

WHITE SWELLING.

274 ¶ THIS disease is known by a colorless swelling, chiefly of the larger joints, as the thigh, knee, ankle, or the wrist and elbow. The inflammation is slow and deep seated, the pain fixed and severe, sometimes imperfectly suppurative, and attended with slow, hectic fever. It may be divided into several varieties: 1st, where it commences in the sack, or synovial membrane, which surrounds the joints; 2nd, where it begins in the cartilages; and 3rd, where it arises from the bones. It may be of a rheumatic or scrofulous nature.

275 ¶ SYMPTOMS. *Hydarthrus* usually commences with a pain in a joint, frequently very severe at one particular spot, and followed in a day or two, by swelling. At first, the swelling arises entirely from fluid in the cavity of the joint, but afterwards, the membranes

thicken, and lymph is effused on the inner and outer surface. The patient is unable to bear weight or pressure on the disordered joint, in consequence of the great increase of pain thus created, and the limb often becomes partially fixed and stiffened. In the rheumatic white swelling, the pain is more intermittent and diffused over the joint. As the disease advances, the veins look blue and distended—collections of matter form about the part, at length burst, and discharge, in some cases, large quantities of purulent matter. Such terrible local mischief must necessarily produce great constitutional disturbance. The patient's health becomes gradually impaired; he loses both his appetite, natural rest, and sleep; his pulse is small, and frequent, obstinate, debilitating diarrhœa, and profuse nocturnal sweats ensue, and in the course of weeks, months, or years, the patient sinks.

CAUSES. With respect to the particular causes of all such white swellings, as come within the class of rheumatic ones, little is known. External irritation, either by exposure to damp or cold, or by the application of violence, is often concerned in bringing on the disease. As for scrofulous white swellings, there can be no doubt that they are under the influence of a particular kind of constitution, termed a *strumous* habit.

276 ¶ TREATMENT. In the early stage, local and general bleeding, blistering, purging, and external irritants will contribute much to the reduction of the inflammatory condition, which is so constant at the onset of the disease. Cold dashes of water, applied suddenly, during the active stage, has been highly recommended. When the inflammation has somewhat

yielded, the employment of strong liniments, containing a proportion of ammonia, tincture of cantharides, volatile liniments, setons, and strong revulsive agents, will be found useful. The external and internal use of iodine has gained considerable reputation in this disease, and no doubt, either alone, or given in combination with colchicum, it is capable of effecting as much, if not more, than any agent now known to the profession. Setons, the potential and active cautery, mercurial and iodide frictions, in many cases, answer an excellent purpose. During the acute and active stage, much relief may be obtained by opium, morphine, soothing and diaphoretic means.

BOTANIC DEPARTMENT.

86 ¶ *THE indications and treatment* consist in cleansing the system of all morbid matter, equalizing vital action, and inviting the inflammatory excitement away from the local parts.

TREATMENT. The bath should be frequently used in combination with alteratives, emetics, and counter irritants. The vital functions must be rendered healthy by frequent courses of medicine, relaxants, alteratives, injections, emetics, and sometimes the general system must be invigorated by good food, proper warmth, and moderate exercise. The local affections may be treated with revulsives, fomentations, stimulating poultices and liniments. It is always important to produce sudden and violent revulsive effects. In this way, we can often succeed in restoring an equilibrium of vital action.

SECTION VI.

LUMBER ABSCESS.

277 ¶ THIS *psoas abscess* is situated in the loins, on one or both sides of the *psoas* muscles. In the region of these muscles lies a quantity of loose cellular membrane, in which an inflammation often takes place, either spontaneously, or from mechanical injuries. This terminates in an abscess that can procure no outlet, but by a circuitous course, in which it generally produces irreparable mischief, without any violent symptoms occurring to alarm the patient. This abscess commences insidiously, is deep seated, and often attended with serious consequences, being sometimes connected with caries of the spine.

278 ¶ SYMPTOMS. Pain and tension about the loins, shooting down the spine and thighs; difficulty of standing erect; fluctuating enlargement along the *psoas* muscles; apex of the tumor immediately below the groin; sometimes, however, the pain is felt in the back, rather lower than the region of the kidneys, and generally extends down the thigh. The pain at first is slight, and the patient thinks lightly of it. After the abscess is formed, the pain, in most cases, increases considerably, and, in common instances, the matter follows the course of the *psoas* muscle, and points externally a little lower than the inguinal glands in the groin, or it passes down the thigh, where, however, it is apt to dissolve the muscles, and form sinous abscesses.

The patient is generally uneasy and restless—fatigued on very little exercise—mostly inclines the trunk forward, and in bed generally keeps the thigh of the affected side bent and slightly relaxed. The constitutional irritation is great before the abscess points; and in some cases, a hectic supervenes, and the patient finally sinks under it.

279 ¶ DIAGNOSIS. The disease with which this is liable to be confounded, or mistaken, is *lumbago* or *nephritic* pains, and towards its termination for *crural* and *femoral* hernia or rupture; the first, however, is not attended with shivering, that occurs here; and complaints of the kidneys are generally discoverable by attention to the state of the urine. The distinction from crural hernia is more difficult. In both, a soft unelastic swelling is felt in the same situation, but in hernia, it is attended with obstructed fæces, vomiting, &c., and its appearance is always sudden, while the lumbar tumor is preceded by various complaints, before its appearance in the thigh. In a horizontal posture, the abscess also totally disappears, while the hernia does not.

280 ¶ TREATMENT. It is difficult to lay down any precise treatment, inasmuch as the disease is not generally ascertained until it has made some considerable progress. If, however, it be detected in its incipient stage, general and local abstractions of blood will be advisable; after which, large blisters may be applied and kept open with the savin serate. Active and powerful revellents may also be used to, and near the neighboring parts. The general system must also be kept

in a healthy state by emetics, cathartics, and alteratives. Iodine naturally suggests itself as a valuable auxiliary in this disease. When the abscess has progressed considerably, the system must be supported by tonics, and the alterative treatment still continued. When the abscess is fully formed, it will be advisable to open it with the abscess lancet, and let out the matter, and apply the proper dressings to it. Due care and attention should be paid to diet, regimen, &c., until the system regains its healthy state.

BOTANIC DEPARTMENT.

87 ¶ THE prominent *indications* and *treatment* consist in purifying courses of medicine, and assisting the efforts of the vital power to regain her lost dominion, and re-establish a full, free, and universal equilibrium throughout the animal system. "Lose sight of these great principles, and you are on a medical ocean, without a quadrant, compass, or rudder." Medical science would be but mockery, and the pen which writes, and the hand that administers, would be a curse instead of a blessing. Adhere closely to these great fundamental principles, using the best means nature has furnished and art has compounded, "and you do all that can be done for the relief of suffering humanity in its hour of greatest need." Relaxation, stimulation, and contractility must be carried on until the system regains its lost balance, and the parts return to a healthy state. General and local means must be employed

until this point is gained. The first end is accomplished by alternate courses of medicine, and the second by local baths, plasters, liniments, and proper revulsive agents. If the abscess should progress until much matter is formed, it must be opened with a lancet, and the part poulticed until it is well cleansed, and then healed with proper salve, constantly keeping up the alterative plan of treatment.

CHAPTER XVI.—SECTION I.

BURNS AND SCALDS.

281 ¶ A *burn* or *scald* is a lesion of the animal body, occasioned by the application of heat, either of a solid or fluid substance; as, from fire, hot water, steam, &c. In almost all cases of burns and scalds, there arises, soon after the infliction of the injury, a sense of coldness, amounting to shivering. This commonly soon goes off, and in those cases, where there is increased action alone, the symptoms of inflammatory fever supervene. But when the injury has been more violent; when exhaustion has followed inordinate excitement, the shivering is severe and long continued, and seldom followed by re-action. In all accidents, from scalds and burns, it seems to be of the utmost importance to apply a remedy at the instant; for by this, the violent anguish is allayed, and vesication, which, in scalds, at least, is usually considerable. Scalds are dangerous in proportion to their extent. The disease is confined to

the skin, which is exquisitely sensible, and brings into sympathy a great number of the vital organs. A very limited scald, and a superficial burn may be treated in the same manner.

282 ¶ TREATMENT. The great object is to apply a remedy as speedily as can be done, in order to render it as mild and superficial as possible. Among the remedies most quickly to be procured on such occasions, plunging the part which has sustained the accident, without a moment's delay, into very cold water, is of the greatest service. The transition from torture to ease, will be truly rapid. Water is always at hand, and after proper immersions in it, for a due length of time, it may be sufficient to cover the injured part with linen rags, moistened therewith, passing over them, from time to time, streams of air, by means of a fan or bellows, until a sense of freezing, or a considerable degree of cold arises. By this simple process a large piece of skin, that has been burned to the appearance of crisping, and surrounded by a high degree of inflammation, has been perfectly cured in the course of a very short time—no sloughing or ulceration taking place, but the crust coming off dry, and leaving a sound surface. As soon as ever the pain somewhat abates, in moderate cases, the part may be covered with thin linen cloth, wetted with æther, or rectified spirits, and applied over the parts aggrieved, and moistening it from time to time, as long as the pain and heat last, then we should stop, and apply a liniment of sweet or linseed oil, three ounces, lime water, six ounces, well mixed together. This may be constantly applied. If the parts assume a livid or dark hue, the dressings must

be changed for those of a more stimulating character, consisting of the kentish or turpentine liniment. An emollient poultice should be applied over these stimulant dressings. Tar is an excellent application to such burns. Early suppuration is desirable. If the state of excitement which attends purulent secretion, should not arise in time, the part will lose its vitality. Slight burns or scalds may be treated with the cold water and whiskey, or other alcohol lotions, which seem to introduce a new action into the part. It should be remembered that it is best to seclude the air from the abraded part. This may be conveniently done with suet skins, bladders, oiled or varnished silk, or tar, slippery elm, bread and milk, or carrot poultice; or a compress dipped in lead water, will be sufficient, and equally adapted to these cases. The tincture of digitalis, applied to the part, immediately after the cold applications, has been highly recommended; also, sprinkling morphine over the denuded surface, and then applying an emollient stimulating poultice over it.

283 ¶ We now come to speak of the *constitutional treatment*. As soon as practicable, after receiving the injury, the patient may take whiskey or brandy, in conjunction with large doses of laudanum, to allay the suffering, and bring on reaction speedily; after which, from time to time, a compound of opium and tartar emetic, in a solid form, will be highly serviceable; remembering to keep the bowels open by unirritating purges; and if the brain become much inflamed, blood-letting may be required, but great caution should be used in regard to much depletion. The antiphlogistic, refrigerant, and diaphoretic plan may be pursued. If

the patient sinks with debility, bark, or quinine may be given, and should the parts appear livid, dark, or gangrenous, poultices of bark, quinine, chloride of lime, and charcoal, may also be applied to the affected parts.

BOTANIC DEPARTMENT.

88 ¶ THE *indications* and *treatment* consist: 1st, in preventing it from penetrating deeply; 2nd, subduing the inflammatory action, and supporting the general system; and 3rdly, cleansing and healing up the parts affected.

TREATMENT. The part affected should be instantly plunged into cold water, and if the part is where it cannot be immersed, let it be covered with cloths, and these kept constantly wet with cold water. When it ceases to smart, though exposed to the air, dress it with elder salve, sweet oil, or fresh butter, and at the same time applying a slippery elm poultice over it, until it is well. If the burn or scald is deep seated and severe, take some quick lime and slack it in a covered vessel, pour off, when cool, and mix with it an equal measure of sweet oil. This will make a cream-like paste, with which the burn may be treated from first to last. If the parts should look livid or dark, a teaspoonful of spirits of turpentine to a gill of the paste, should be added, and applied to the part. If at any time proud or fungus flesh should appear in the wound, a little burnt alum, blood root, or caustic potash may be applied to the fungus part. If fever should rise, it

must be combatted upon the great principles for removing fevers and inflammations from the system; and where reaction does not take place speedily after the accident, a little composition tea may be given. The bowels must be kept open, the affected parts from the air, and the general system calm, healthy, and in an equable state until the patient is restored to health.

CHAPTER XVII.—SECTION I.

DISEASES OF CHILDREN.

284 ¶ MUCH attention and discrimination are required to treat the diseases of infants judiciously; close and repeated observation being the principal means of supplying the want of that kind of assistance which the personal information of adult patients generally affords. The disorders of early infancy are more plain than has been generally supposed; their number is comparatively small; their symptoms definite; their causes uniform; and the treatment of most of them is simple, and pretty certain. Improper food; confined and unwholesome air; the want of due exercise and cleanliness; difficult dentition; specific contagious diseases, and unhealthiness of the parents, are the most general causes of the diseases of children. The symptoms by which we judge of the presence and nature of diseases of children, when very young, are mostly the following:—costiveness, purging, some belching, vomiting, restlessness, crying, wakefulness, loathing of food, turning up the eyes, blue-

ness about the mouth, startings from sleep, thirst, heat, difficulty of breathing, eruptions on the skin, distension of the belly, &c. When one or more of these signs are present, the watchful nurse immediately begins to conclude all is not right, something is the matter with the babe, and her attention is directed to the cause, and a remedy is prescribed. Having thus briefly noticed the general outlines of some of the causes and symptoms of infantile diseases, in general, we shall proceed to consider most of them separately. As it is always desirable, as far as we are able to prevent diseases, rather than to cure them, and to obviate the causes, rather than to remove their effects, it is best to offer a few remarks on the proper and healthy management of young children, previous to entering on the removal of their maladies.

285 ¶ 1st. As soon as ever the infant is washed and dressed, it should be put to its mother's breast, and permitted to suck from time to time, whether it gets milk or not. During the first few months of a child's life, the milk of its mother is unquestionably preferable to every other kind of nourishment, and even to the milk of another woman, provided the parent is in good health, and labors under no constitutional imperfection of importance.

2nd. Whenever the mother does not supply it with its proper quantity and quality of nourishment, at the breast, it must be fed at proper intervals, with proper liquid aliment. The best food for the child's tender stomach is, good rich cream, or what is called strippings, (not as is supposed, poor milk and water,) as it does not coagulate like milk, and the child thus fed, will exhibit a fine rosy complexion, a vigorous and firm

constitution. At the end of five or six months, the diet may be made a little stronger, consisting of mutton broth or beef tea, and, occasionally, some light pudding may be allowed. Animal food, which is easy of digestion, may be given about the eighth or ninth month, if dentition has taken place early. The child may be weaned at the end of the ninth or tenth month, if occasion require, if not, it may continue at the breast, somewhat longer.

286 ¶ 3rd. The dressing of children is a matter of some importance. The rule to be observed is, that the child should not wear any more clothing than what is necessary to keep it warm, that they fit easy and loose on their bodies, and that they be changed frequently, especially if they happen to be wet. Dirty clothes gall and fret the tender skin of infants, produce an unpleasant smell, engender vermin, and give rise to many cutaneous diseases; whereas, cleanliness, assisted by gentle friction with the hand, over every part of the body, morning and evening, with proper ablutions, with the warm or even cold water, tends greatly to preserve the health of children, invigorate and give tone to the muscular fibre, promote the perspiration, and energize the development of the mental faculties.

4th. In dressing the infant, if the nurse observes the skin anywhere chafed or galled, after washing the parts and drying them well, they should be dusted over with prepared chalk, magnesia, or some other absorbent article. A young child should be amused through the day and not suffered to sleep much during that time, that it may get the more rest by night: it should be early accustomed to the bath, much exercise, and being

in the open air, for vigor of the body conduces to that of the mind. As this is the germinating period of body and mind, every exertion should be made to plant a healthy frame, sound constitution, well balanced and active powers of mind. The moral as well as the corporeal and intellectual faculties, should be well disciplined, and trained in the school of virtue, honesty, and reverence, that its riper years may be crowned with the best of consequences; and, beyond this mundane system, that it may share the rich spoils of life everlasting.

BOTANIC DEPARTMENT.

89 ¶ As children are the offspring of unhealthy parents, it is reasonable to suppose that, many possess an unsound constitution, and many more are predisposed to maladies of the most serious character. As like engenders like, and as the stream can never rise above its fountain, so then let parents keep in good health, and their offspring will be blessed with a sound constitution, as surely as a flourishing healthy plant will produce a healthy seed. The child, from the moment it commences its career in this world of mind and matter, should be properly washed, dressed, fed, exercised, and disciplined, until its corporeal, moral, and intellectual faculties are completely developed and matured. The first milk secreted is the most appropriate, being the natural physic to the child, (and, unless nature is all wrong,) comes quick enough, is strong enough for nature's offspring, in quantity, quality, and administra-

tion; then let us endeavor to imitate the best of laws and principles: let its own mother nurse it, unless you can procure one of a better constitution, temper, habits, examples, and manners. Nurses communicate to the child the influence of all their evil tempers and examples, and teach them false and vicious notions of right and wrong. A nurse of vicious passions and propensities, even vitiates her milk, as well as her example, and renders it not only totally unsuitable to the infant, but positively injurious: such, therefore, should always be avoided. When nature provides the child with teeth, give it animal and vegetable food. When it can run about, allow it more food, exercise, and a wider range of air. When its mind can discern characters, and distinguish sounds, learn it the alphabet, as fast as its corporeal, moral, and intellectual faculties begin to be developed, put them in moderate and proper exercise. If a part, organ, or function begin to fail, and does not perform its proper office, enquire into the cause, examine the symptoms, and determine on the best means and ways to restore it to its accustomed, natural, and healthy action.

SECTION II.

WORMS.

287 ¶ EVERY part of animals, and vegetables, are more or less liable to be infested by parasites, but those only that are seated in the intestines, are the cause of

much uneasiness to man. They may exist in every possible state of the digestive tube, but it is only when there is an undue accumulation that our attention is directed to their prevention and removal. Very frequently they remain so quiet in their proper region as to give no signs of their existence; but any constitutional disturbance, or an attack of fever, seem to extend its effects to these inhabitants of the digestive canal, and these troublesome and mischievous intruders, produce an intolerable feeling of faintness, irritation, and fever, and frequently they are evacuated during the existence of such illness. Some constitutions are very much predisposed to invagination, and children, especially, are more prone to it than adults. The presence of worms in the intestinal canal, carries with it such decided evidence of the existence of disease, that it has, from the earliest ages, been a constant object of anxiety in the world, and a favorite subject of investigation with medical authors, but yet many a practitioner of physic is less acquainted with the symptoms which denote the presence of worms, and the means which are best calculated to remove them, than the mother whose watchful eye is ever ready to detect the slightest deviation of her offspring from perfect health. Every plant, and animal, which possesses life, has its own peculiar element, and is governed by its own specific laws, in generation, habitation, and preservation. Some intestinal worms have a *spontaneous* generation, the bowels being the soil to quicken them into life, and the mucus which is secreted by the intestines, is the place in which they involve themselves, and feed, and breed, until they often form a large family of these innoxious and trou-

blesome creatures. There are commonly reckoned *five* distinct species of worms, which inhabit the intestines.

288 ¶ 1st. *The long thread worm*, is from an inch and a half to two inches in length, and not much larger than a hair. These worms are seldom numerous, and are principally found in the large intestines.

2nd. *The maw or thread worm*. This is a very small white worm, and is found only in the large lower intestines, where they are often collected in almost countless numbers.

3rd. *The long round worm*. These are from two or three, to ten or twelve inches in length; round; of a yellowish white color; of nearly a uniform thickness except at the point. These are the worms which mostly annoy children; inhabiting the small intestines, and occasionally ascending into the stomach.

4th. *The broad tape worm*. This is from thirty to forty feet, or more, in length; is flat; white; and composed of a series of concatenated joints, resembling a piece of white tape, and inhabits the upper portion of the bowels and stomach.

5th. *The long tape worm*. This worm is often of incredible length, and is the most common species of tape worm, and is passed off in pieces of greater or less number of joints; it inhabits the stomach and small intestines.

289 ¶ SYMPTOMS. Countenance pale and lead colored, with occasional transient flushes; eyes dull, with pupils dilated, with a blueish semi-circular around the lower eyelids; tickling in the nose; tumid upper lip; headache; sleep disturbed by dreams and broken off by

fright and screaming; convulsions; feverishness; thirst; bad taste in the mouth; grinding of the teeth; offensive breath; variable appetite; cough; emaciation; transient pains in the stomach and bowels; frequent slimy stools or costiveness; urine turbid, yellowish or milky; abdomen full and hard; tongue furred; occasional nausea and vomiting—the surest indications are a discharge of worms from the stomach and bowels. The *broad tape* worms produce the severest mischief on the body. The *maw or thread* worms are generally extremely annoying, particularly in the evening soon after lying down; they usually occasion a very distressing itching in the arms.

290 ¶ CAUSES. The remote causes of the generation and increase of worms, may be traced to a sedentary and inactive course of life, habitual exposure to a humid atmosphere, the abundant use of fat mealy articles of diet, fresh milk, the use of more food than the stomach can digest. They are commonly met with in persons of weak, enfeebled, and irritable habits, and therefore prevail much more extensively in children than adults; in women than in men. They are quite prevalent in families who use their food very fresh, and who labor under a weak state of the digestive organs. I have had occasion to observe that the stomach, as well as the womb, is the great organ of sympathy, or associates in affections of the most remote parts of the system. This is particularly the case with respect to the irritation produced by worms, and especially, those that exist in the stomach itself, or the upper portion of the bowels; hence, many diseases are influenced or occasioned by worms. Epilepsy, dropsy of the head, con-

vulsions, palsies, fevers, dropsies, &c., all may occasionally be the result of the irritation of worms.

291 ¶ TREATMENT. In prescribing for the removal or destruction of intestinal worms, it is of considerable consequence to confine the patient to a spare and liquid diet, and give one or two purgatives a few days previous to the exhibition of the proper expulsive remedies.

1st. The removal of the *thread worms*, which inhabit the lower bowels, is attended with some difficulty, though once removed for the time, they almost always return again and again, in those who are once infested with these worms. The best mode of prescribing for the expulsion of these troublesome worms is, to give three or four *aloetic* purgatives every second day, and use injections of lime water and milk; and what is still better, injections of spirits of *turpentine* mixed with milk, aloes, or other vermifuges, will do for injections.

2nd. For the removal of the common *long round worm*, take one ounce of pink root to a pint of water boiled down to a half pint: this being sweetened, is to be drank in the course of three or four hours: as soon as the whole of the decoction is taken, give half an ounce of castor oil, and a fourth of an ounce of spirits of turpentine to a child of from four to eight years old. This will rarely fail: if it should, repeat the oil and turpentine. From four to eight drops, or twenty to forty grains of the seed of *jerusalem oak*, is a valuable remedy. Half a tea spoonful of the *cowhage down*, twice a day, for several days, has succeeded well. Two or three grains of *camphor*, dissolved in an ounce of

water, and sweetened, may be given three or four times daily, for several days. This, though simple, is very efficacious to expel and prevent the generation of worms. The spirits of turpentine from half to an ounce, stands on the list of vermifuges, as high as any thing we possess: this should be given with milk, coffee, or some other fluids.

3rd. For the expulsion of the *tape worm*, we generally give the root of *male fern*, filings of iron, valerian, the bark of the pomegranate root, spirits of turpentine, or the empyreumatic oil of chabert. Whatever mode of treatment be adopted, it is always of much consequence to prepare the patient by a spare and liquid diet, and the daily use of small doses of saline purgatives, for four or five days, and then commence on one or the other of these vermifuges, and repeat them daily, until you have expelled the entire worm. To prevent the rapid re-production of worms, after they have been expelled or destroyed by vermifuges, recourse must be had to tonic bitters. The *worm moss*, perhaps, is the most valuable; an ounce of this sea weed, with a little valerian, should be boiled in a pint of water down to a gill: of this, a tea spoonful may be given every morning, noon, and evening, with peculiar advantage to children laboring under worm affections, arising from mere debility of the digestive organs, and vitiated secretions in the bowels.

BOTANIC DEPARTMENT.

90 ¶ THE principal *indications* of cure consist: 1st, in dispelling the worms from the intestinal canal: 2nd, preventing their re-appearance: and, 3rd, strengthening the general system, and giving tone and action to the stomach and bowels.

TREATMENT. When called to a verminous case, if severe, it is best to give a strong tea of jerusalem oak or pink root, for several hours, and then follow it with a purgative dose of senna, castor oil, extract of white walnut, boneset or aloes. The bowels should be poulticed with bitter herbs, as balmony, tansy, rue, wormwood, bitter root, &c. At the same time injections of bitter decoctions will greatly aid in the expulsion of the worms. In more mild cases the bitter tonic medicines will generally be sufficient. All of the *bitter extracts* are excellent agents for removing of worms, and for strengthening the alimentary canal. *Oils*, as wormseed, olive, cedar, juniper, and linseed, are serviceable. The different balsams, as turpentine, fir, pine, life, &c., have occasionally been given beneficially. Cowhage down, male fern, salt, and lime water, have been used; and, no doubt, in many instances, with decided benefit. One thing must be borne in mind in the successful treatment of worm cases, that is, the whole alimentary canal must be strengthened, and the system, in general, must be rendered healthy, active, and vigorous, before much can be effected in permanently removing or preventing the generation of worms. Whatever then, will most conduce to this end, will prove to be the best vermifuges.

It is not only the expulsion, but the prevention of these irritating intruders, that the honest physician seeks to accomplish. Thus, suitable medicines should be given to those who indicate the presence of worms, before necessity absolutely compels them to seek for remediate relief.

SECTION III.

CHOLERA INFANTUM.

292 ¶ THIS disease is one of the most fatal to which children are liable, particularly during the summer months, in the large cities of this country. It is, indeed, peculiar to this climate, appearing generally about the end of June, or beginning of July, continuing during the summer and fall months. Children from a few weeks to two or three years old, are especially liable to it.

SYMPTOMS. In many cases, the disease begins with diarrhœa; but in others, both vomiting and purging come on at first, without any premonitions. The disease may be acute or chronic. The acute form may, in extreme cases, terminate in twenty-four hours, but more commonly, the disease continues for a few days, before either the tendency to convalescence, or to death, is manifested. The chronic form may go on for weeks, and even months, creating great weakness, emaciation, and prostration. The pulse in this disease is unusually frequent, and somewhat tense, and there are almost

always manifest signs of febrile irritation, with some heat of skin, and exacerbation towards evening. The discharges are at first extremely fluid, and often frothy, sometimes tinging the cloths green or yellow, and at others, leaving mucus upon them. There is often severe intestinal pain, or uneasiness, which may be increased by pressure, and at times the muscles of the abdomen and extremities contract spasmodically. The thirst is considerable, and the appetite gone or remarkably changeable. Frequently the evacuations exhibit the existence of great irritability of the intestinal canal, the food passing rapidly through it, without undergoing any change; at other times they have a putrid, disagreeable and ugly smell. In the more protracted cases, these appearances are more frequently met with, along with a cankerous mouth, swelling of the belly, and, sometimes before death, a vesicular eruption appears extensively on the chest.

293 ¶ PROGNOSIS. When there is considerable fever, great thirst, and much uneasiness, there is great danger of its terminating unfavorably; the prostration makes frightful progress; the febrile irritation is constant and manifest; the child becomes restless and comatose, and gradually sinks; the fatal termination being at times preceded by a convulsion. The favorable indications of recovery are to be seen in the returning of the secretions and excretions to their natural and healthy appearance; more feculent matter will be discernable in the stools, and the skin will generally become moist.

294 ¶ CAUSES. As cholera infantum is a great scourge of our cities during the summer months, it is obvious that the excessive heat may be concerned in its generation; yet that this is not alone sufficient to induce it, as is shown by the fact that, in some situations, where the heat may be equally great, the disease is comparatively rare. It would seem to be necessary that there should be a union of atmospheric heat, and atmospheric vitiation, in order that the disease should exist fatally and extensively; and this combination is met with in the confined and deteriorated air of certain parts of large cities. Under the predisposition engendered by great atmospheric heat and vitiation, it is clear, that improper aliment may be an exciting cause. The great irritation produced by dentition, may contribute largely to the production of this disease. Age, too, unquestionably offers a predisposition. Children, from three months to two years old, are more liable to be attacked with this disease.

295 ¶ SEAT. The mucus membrane of the bowels generally exhibits evidences of inflammation, and especially the follicles, which have been considered the primary seat of the disease. In long protracted cases, sometimes the intestinal canal is found in a state of ulceration, and much contracted. The liver is somewhat enlarged. The brain, in most cases, has been found in a high state of engorgement; and in long standing cases, serous effusions have been met with in the ventricles, and at the surface of that viscus. Hence, many physicians, in order to shield themselves from the responsibility of the loss of such cases, have pronounced the disease to be hydrocephalitis, or dropsy of the brain,

when, indeed the original link in morbid affection, was primarily seated in the alimentary canal.

296 ¶ TREATMENT. The general principles of treatment do not differ from those laid down under inflammation of the mucus coat and diarrhœa. Authors have generally commenced the treatment by small doses of calomel, from one to four grain doses, frequently repeated, are the best purgatives in this disease; they should be often preceded by an emetic of ipecac. Prepared chalk should be liberally given in combination with the calomel, and most cases will be benefitted by the addition of one-twentieth grain of opium.

R. Calomel, gr. 2,
Pp. Chalk, gr. 6,
Opium, gr. 1-20.

This preparation may be repeated every hour, until the bowels are freely moved, and the state of the stools changed. Frequently, rhubarb, in combination with magnesia, or the carbonate of soda, will be sufficient to move the bowels, and in mild cases, will answer every purpose without the use of calomel. When the offending matters have been discharged from the bowels, purgatives should not be given, but chalk, peppermint, laudanum, demulcent and diluent drinks should be continued. The patient's diet should consist of liquids and soups, as rice water, toast water, chicken or beef tea, boiled milk, sago, or arrow root. Besides the internal remedies, the abdomen should be poulticed with emollient applications, and fomentations of spirits, brandy, camphor, or volatile liniment; these should be constantly applied to the abdomen. Injections of flax-seed tea, mutton broth, and starch, with a little lauda-

num in them, to give ease to the patient, and to calm irritability, are often proper. The warm bath is often beneficial at all periods of the disease. In more protracted cases, but not earlier, as a general rule, it may become necessary to administer astringents and tonics. The sugar of lead has been highly extolled by many practitioners. Gum kino, cinnamon, spices, aromatics, &c., are frequently of the highest service, after all signs of the inflammatory stage has passed by. To allay the great thirst that prevails during the excited stage, iced water may be allowed, or the child may be permitted to suck ice, contained in a piece of gauze. One of the most important curative agencies is change of air, riding, or carrying the patient about in the open air, is of essential service. Sleeping on a mattress, with the windows of the chamber open, avoiding unripe fruits, and the succulent vegetables, wearing flannels, and using frictions on the skin, are good prophylactics. Children and weakly persons ought to accustom themselves daily to the use of the warm or cold bath, particularly during the summer season. It will invigorate and strengthen the system, relieve and prevent bowel complaints, and keep the system free from many other diseases. Such are the general principles of management, and the chief methods of carrying them into effect; but the plan advisable in each particular case, must be left to the sound discretion of those who administer to the patient.

BOTANIC DEPARTMENT.

91 ¶ THIS disease is the fruitful source of many deaths. The great object is to divert the accumulated vital action from the mucus follicles of the intestinal canal and other organs which sympathize with this great function of digestion. As an excitement in one part takes off the natural action in another which stands sympathetically related to it, so we find that a restoration of these sympathizing parts or organs, does much to eradicate disease from the animal system. When the accumulated vital action is too great in the mucus linings of the bowels, the external coverings of the body are comparatively deficient. When the excitement is too great in the head, it is diminished in the extremities. When the excitement is increased in the heart and arteries, it is in the same ratio lessened in the secretions and excretions. Whenever there is any excessive local action, there is a corresponding diminution in some other part. If any sedative or depressing agent operates upon the whole nervous system, which is the grand moving principle, then there is a general prostration. When it operates upon a smaller portion, there is much less debility. When the depression is long, the re-action or fever comes on to throw off that depression, and restore, if possible, the breach occasioned. Thence we see what fever is, and are led to the true principles of removing disease from the human frame. In cholera infantum, then, it becomes necessary to create and maintain an action on the skin; this may be done by the vapor bath and other external applica-

tions applied to the region of the bowels, at the same time that relaxants are used, to bring about an equilibrium, and a removal to a pure atmosphere.

SECTION IV.

APHTHÆ OR THRUSH.

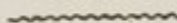
297 ¶ THIS disease appears in small white ulcers, upon the tongue, gums, and around the mouth and palate, resembling small particles of curdled milk. When the disease is mild, it is confined to these parts; but when it is violent, and of long standing, it is apt to extend through the whole course of the alimentary canal, from the mouth down to the anus, and so excite severe purgings, flatulencies, and other disagreeable symptoms. The disease when recent, and confined to the mouth, may, in general, be easily removed; but when of long standing, and extends down to the stomach and intestines, it very frequently proves fatal. The thrush sometimes occurs as a chronic disease, both in warm climates, and in those northern countries where the cold is combined with a considerable degree of moisture, or where the soil is of a very marshy nature. It may, in some cases, be considered as a primary affection, but it is more usually symptomatic.

298 ¶ SYMPTOMS. It shows itself at first by an uneasy sensation or burning heat in the stomach, which comes on by slow degrees, and increases gradually in,

violence. After sometime small pimples of about the size of a pin head, show themselves on the tip and edges of the tongue, and these at length spread over the whole inside of the mouth, and occasion such a tenderness and rawness, that the patient cannot take food of a solid nature. The skin is dry, countenance pale, pulse small, and extremities cold. These symptoms will probably continue for some weeks, the general health being sometimes better and sometimes worse; and then the patient will be attacked with acrid eructations or severe purgings, which greatly exhaust his strength, and produce considerable emaciation of the whole body. After a little time these symptoms cease, but sooner or later they reappear with greater virulence than before, until at last the patient is reduced to a perfect skeleton.

299 ¶ TREATMENT. The treatment of thrush in children is generally to begin with the exhibition of a gentle emetic, then clear the bowels, if confined by rhubarb, magnesia, castor oil, or some other mild aperient. In general, the prevalence of acid in the alimentary canal, appears to lead to the complaint; hence, antacid remedies prove beneficial in its progress, as prepared chalk, magnesia, soda, &c. When the child is very weak, and the aphthæ of a dark color, the decoction of bark or other tonics must be resorted to. The mineral and vegetable acids, combined with the bark, ought to be given four or five times a day. The separation of the sloughs, and healing of the ulcers, may be promoted by washing the mouth occasionally with honey, borax, and rose water, in combination. If the disease extends to the bowels, it may be advisable to sheath the parts by emollient clysters, repeating them twice or thrice a day.

Should the patient be harassed by a bowel complaint, a few drops of laudanum, in combination with prepared chalk, will prove highly serviceable. The diet should be light and nutritious, especially where there is much debility. When the complaint is subsiding, particular attention should be paid to the state of the bowels. The skin should be kept pliable and moist, with the warm bath and sweating remedies; in a damp cold climate, the patient should wear flannel next the skin.



BOTANIC DEPARTMENT.

92 ¶ CANKER or sore mouth, is a very common and troublesome affection of infants, and sometimes of adults. It is very common to children soon after birth. This disease can generally be removed by the vapor bath, bayberry, golden thread, sumach, slippery elm, &c. The bath will keep up an action on the skin at the same time that slippery elm is used to soften the crusts, and protect the tender skin from irritation. The bayberry should be freely given during the whole course of the disease. The golden thread or privet, and honey, will form an excellent wash for the mouth. When once removed, care should be taken to keep the system in good health, in order to prevent a return of the disease.

SECTION V.

CONVULSIONS OF CHILDREN.

300 ¶ CONVULSIVE affections are quite common to children. "Very young infants are subject to slight degrees of spasms, called inward fits, in which the mouth is, during sleep, drawn into a smile; the eyelids are not quite closed, and the eyes are turned about, so as, at times, to discover the white; the breathing seems occasionally to flutter, and the child is very easily startled." Some children, very early after birth, appear languid; moan, and pass dark colored fæces, after which they fall into a state rather resembling faintness than convulsions, and die, perhaps, in forty-eight hours after they are born; others again, are seized with a violent fit of crying, and they become more or less distinctly convulsed, and the muscular irritation may repeatedly occur. When a child is seized with convulsions, a very great alarm prevails, and much hurry is manifested to get something down the child, right or wrong.

301 ¶ CAUSES. Violent spasmodic affections sometimes attack infants without any apparent cause, but in general they are produced either by a lodgment of some acrid matter in the intestines, or wind pent up; or they may arise from teething, worms, the sudden striking in of a rash, drying up of a discharge from behind the ears, impure air, and unwholesome food. Sometimes, however, the disease is a primary affection of the brain itself, and very often they occur in dropsy of the brain,

or the last stage of croup. In at least nine cases out of ten, convulsions proceed from irritation of the bowels, the stools being generally unnatural, or the digestive functions impaired. This observation is of much importance in practice, as it points out both the means of prevention and of cure.

302 ¶ TREATMENT. When the disease proceeds from acrid matters in the alimentary canal, they should be promptly removed by suitable laxatives and injections; if from flatulency, then carminatives and some of the essences ought to be used; when it is ascertained to arise from teething, an incision may be made with a bistory or sharp pointed penknife, down through the gums to the crown of the teeth. When, from the prevailing symptoms, we suspect them to have been excited by the irritation of worms, we should always have recourse to the vermifuges which have been advised under that particular head. If an eruption has suddenly disappeared from the surface, we should resort to the warm bath, clysters, and sweating teas, in order to recall back to the surface that source of irritation which has been transferred to the internal surfaces. When it is evident that they proceed from a determination of blood to the head, bleeding, blistering, bathing, and exciting an action in the extremities, will prove beneficial. When they have been known to come on in the last stage of dropsy or croup, there are no remedies which will avail much, as dropsy of the head, in its advanced stage, may be regarded as one of the most hopeless diseases to which children are subject. In all cases of spasmodic diseases, we should endeavor to search out the cause, and direct our energies to the

removal of it, if we expect to be successful in the treatment. One primary object is to keep a healthy action in the bowels; to allay the morbid irritability of the system; hence, anodynes and antispasmodics should be premised, after a sufficient attention has been paid to the state of the different functions supposed to be primarily or sympathetically affected. The spine, which is the grand centre of sympathetic irritation, should be freely rubbed with some stimulant embrocation, and if the head is hot, cold applications may be made to that region. Convulsions have been sometimes caused by impure air and unwholesome diet, and can only in such cases be relieved by a change of diet.

BOTANIC DEPARTMENT.

93 ¶ CHILDREN, from the great irritability of their nervous system, are especially liable to violent convulsive diseases. They are to be removed on the great principles of relaxing the system, removing the obstructions, and restoring an equilibrium in the vital tissues. The agents then to be used, are lobelia, bonset, balm, mint and the like, with which the vapor bath should be freely used. Mild purgatives are to be given by the mouth; relaxing and aperient articles ought to be injected into the bowels. It is in this form of disease that nervines prove so beneficial. When all sources of irritation are removed from the system; then tonics may be advantageously administered to keep what is gained, and brace the general system against the liability

to further attacks of this frightful malady. If the disease results from irritating matters engendered in, as worms, or received into the stomach, as unwholesome food; these circumstances should be removed by those agents which are best calculated for this purpose.

SECTION VI.

SCARLET FEVER.

303 THE scarlet fever is so called, from the color of the patient's skin, which appears as if it were tinged with red wine. It seizes persons at all ages, and it appears at all seasons of the year; though it is more frequently met with towards the end of autumn or beginning of winter, than at any other period, at which time it very often becomes a prevalent epidemic. It is a very modern complaint, and beyond all doubt very contagious, and in its malignant form a very dangerous disease. It appears under every grade of violence, from the simplest and least dangerous, to the most severe and malignant forms.

Fever—a peculiar eruption of the skin, and inflammation of fauces, terminating rapidly, in some instances, in ulceration and sloughing, constitute the essential features of the disease. In relation to the particular character and violence of these morbid conditions, it may be divided into two varieties, namely, simple and malignant.

304 ¶ SYMPTOMS. The simple scarlet fever is ushered in by slight febrile symptoms. The patient is seized with chills, alternating with transient flushes of heat, depression, nausea, pains in the loins, lower extremities and head, a hot and dry skin, and a frequent pulse. On the second day a scarlet eruption comes out, first on the face, then successively on the neck, trunk and extremities; spreading finally over the surface of the mouth and fauces. This rash consists of innumerable red points, which, running into each other, give a diffused blush to the whole skin, sometimes on the trunk of the body; the rash is distributed into irregular patches. When the skin is pressed with the point of the finger, the redness disappears for a moment, leaving a transient white spot. With the commencement of the fever, or soon after its accession, a slight soreness of the fauces, attended with some difficulty of swallowing occurs, and the voice usually thick and less sonorous; the face becomes slightly swelled, the tongue is covered with a thick white fur, and the patient is quite restless. On the fourth day, the eruption and fever are generally at a crisis, and on the fifth day, both usually begin to decline and continue to diminish until they have gone off entirely, about the end of the seventh day.

The malignant scarlet fever is ushered in with all the above named symptoms, but in a much more aggravating and alarming degree. The throat is, in some cases, highly painful, red and tumid, the voice hoarse, deglutition difficult, respiration hurried, muscular prostration great, thirst urgent, and the heat of the skin more intense than in any other febrile affection; the breath fœtid, and the papillæ projecting from its surface; the eruption on the skin irregular, dark, and

livid, and it does not generally come out as early in this as in the simple variety; the glands about the neck more hard and swollen, and the patient is harassed with painful diarrhœa. At an early period of the disease, the animal powers sink, delirium arises, and, towards the end, cold, clammy sweats supervene, and all the immediate precursors of death.

305 ¶ SEQUALA. Scarlet fever, like measles, is frequently followed by various troublesome, and often dangerous disorders, among which, swelling or dropsy of the chest, is by far the most common. The patient is often left deaf, the hair is very apt to come out, the glands enlarge, and a troublesome looseness supervenes.

DIAGNOSIS. The only disease with which scarlet fever is able to be confounded, is *measles* and *miliary fever*. In simple scarlet fever, the eruption generally comes out within the first forty-eight hours of the fever, whereas, in measles, the rash rarely appears until the third day of the catarrh, cough, and watery eye, running of the nose, and sneezing, which are most conspicuous. In miliary fever, the rash is attended with perspiration, and the eruption is seated on the skin, possessing its natural color.

306 ¶ PROGNOSIS. The formation of a proper judgment, or foretelling of the probable issue in scarlet fever, is attended with some difficulty, since this disease assumes every grade, from the mildest to the most fatal degrees of violence. In the *simple* variety, little or nothing, in general, need be apprehended for the safety of the patient, unless dangerous secondary affections supervene during the declension or period of convales-

cence, from cold, or other accidental causes. The *malignant* variety is always attended with great danger, and, in its epidemic form, may be regarded as among the most fatal maladies.

307 ¶ This affection arises from a specific contagious miasm, or principle, which, like most other febrile contagions, appears to be much under the influence of certain occult atmospheric prevalence, as from different epidemics, which have been known to assume. Accidental predisposition, age, peculiarity, of constitution, have, of course, as great influence on the activity of this as of other contagions. The period which intervenes between the first impressions of the contagion and the manifest commencement of the disease, varies from three to six days. It is also well established, that occasionally this disease arises from exposure to cold.

308 ¶ TREATMENT. From what has been said, we discover that this is a very dangerous disease; though, in its mild form no particular danger presents itself, but we see in the *sequel* that other morbid complaints may, and often do, arise; therefore, we should commence with a prompt, energetic, and regular course of treatment, and continue until convalescence is completely perfected. Not a single article of medicine should be withheld, not a single omission in nursing should occur. Having been thrown into several epidemics of scarlet fever, my experience is not very limited in this disease. I have tried and tried in vain the different treatments recommended by many of our standard authors. Many, very many, of my patients were lost, until I fell on the present mode of

treatment, which has given me great satisfaction. I commence by giving table salt. I usually dissolve two or more table spoonsful in a tea cup two-thirds full of milk-warm vinegar; of this, I give to a child from five to eight years old, one-fourth; this they usually throw up. In ten minutes, I give one-fourth more; this is generally thrown up. In ten minutes longer, I give another fourth; sometimes this is thrown up; at other times it is retained. If it does not puke or purge in ten or fifteen minutes, I give the balance, which I want to have retained, so as to operate freely upon the bowels. This same process I repeat two or three times daily, for several days, until I break up the morbid or febrile train of symptoms. I also commence with a strong cold *salt bath*, and repeat it when the skin is very hot and dry, every hour. This bath I continue until the temperature of the skin becomes natural. I then substitute the warm salt bath for it, which must be continued until perfect convalescence. From ten to fifteen drops of the tincture of *colchicum* or *meadow saffron* should be given every three or four hours. If there is much muscular prostration in the latter part of the disease, I usually add *cayenne pepper* to the *salt* and *vinegar*. In the stage of excitement, cooling drinks, acidulated with lemon juice, or elixir of vitriol, should be freely allowed. Gargles for the throat should be frequently used. Sage tea, alum, sweetened with honey, or an infusion of green tea will answer exceedingly well for this purpose.

BOTANIC DEPARTMENT.

94 ¶ Most botanic physicians treat this form of disease with emetics of bonset, ipecac root, using at the same time sweating teas, to relieve fever, and poulticing the neck with stimulating applications, as cayenne and vinegar, and using the vapor bath, several times a day, and where the fever is considerable, broken doses of lobelia. The alterative treatment is still continued, as burdock, sarsaparilla, spikenard, and all the other laxative bitters, together with gargles of cayenne, teas, diluted No. 6. But I am decidedly of the opinion, that not only scarlet fever, but most of the cutaneous diseases and affections of the throat may be treated with the bath composed of salt, vinegar and cayenne, used repeatedly, and giving at the same time two or three emetic doses of salt, weak vinegar and a little cayenne, during the course of a day, using at the same time gargles of cayenne, salt and vinegar. I have noticed a decided change in the eruption after the very first dose of salt and vinegar; and so confident I am of the superlative effects of this remedy in all those putrid sore throats, that I scarcely ever prescribe any other remedy. It is true, that under certain circumstances, all may fail, and no physician should be dogmatical on the power of any remedy. It is enough to suggest to any enlightened citizen our views on the subject of treatment, and then leave the matter to their sound discretion. Men cannot be driven. They must see a fitness in things before they will act. Some seem to be influenced by motives of benevolence; others, again by self interest. Few are independent and firm

enough to adopt that course of practice which will cure the quickest and leave the system in the most perfect state of health, whilst many will oppose every thing which does not tally with their former training, and correspond with their unchangeable prejudices.

SECTION VII.

BLACK TONGUE, OR ERYSIPELAS.

309 ¶ THIS disease is more peculiar to children, though not confined to them alone. Of late years, this has assumed a different aspect, and has appeared in a form of greater malignity. Some physicians question very much whether the black tongue, as it manifests itself in the west, is truly a species of erysipelas, whilst others again contend for its identity. Having examined the disease for myself, and consulted with a great number of medical gentlemen, I am fully of the opinion that it is a malignant form of erysipelatous inflammation, greatly heightened by its epidemic character, and gradually participating in the nature of those diseases which are prevalent at the time of its invasion. It is a febrile disease, attended with diffusive cutaneous inflammation on the face, or some other part of the person, characterized by redness, burning heat, swelling, vesication, tending either to abscess or gangrene. It is more liable to attack children and women, and those of an irritable habit, than those of a plethoric and robust constitution. It may appear at all seasons of the year, though some-

times returns periodically, attacking the patient once or twice a year, or even once every month, and it occurs oftener in warm climates, and every part of the body is equally liable to it, but it more frequently appears on the face, legs, and feet, than any where else, when seated externally, and of the mucus membrane, when seated internally. Occasionally it has been known to prevail epidemically, and there is in some persons a strong disposition to this kind of inflammation, and this disposition appears in some cases to be hereditary, and in them it is brought on by very trifling causes. Some infants are subject to a modification of erysipelas, of a very obstinate and dangerous character. It usually occurs soon after birth, and instances are related of children having been born with blotches of erysipelatous inflammation, so far advanced as to exhibit vesications and spots of gangrene. In these cases it usually commences about the genitals, nates or navel, and gradually spreads over the abdomen, and along the back and inside of the thighs, and it has a strong tendency to terminate in gangrene or ulcerative suppuration.

310 ¶ SYMPTOMS. It is ushered in by febrile symptoms of considerable severity, which continue through the whole course of the disease. The pulse is always frequent, and commonly full and hard. The functions of the brain are much disturbed, and drowsiness or confusion of the head, amounting in some cases to delirium, accompany the hot stage. On the second, or at farthest, on the third morning from the attack of rigors, redness or swelling appears on some part of the skin, very frequently on one side of the nose, spreading rapidly to the rest of the face, or extending over the scalp, neck,

and shoulders. There is a distressing sense of heat and tingling in the inflamed surface. The whole face becomes swollen, and upon the second or third day from the appearance of inflammation, the eyelids are commonly closed, and the swelling often increases to a very considerable extent, in the progress of the disease. In some instances the inflammation gradually travels along the skin without increasing much in the extent of its surface, disappearing from the parts first affected, in proportion as it encroaches on the adjoining sound skin. But, usually, it retains possession of the part first seized, and spreads more and more until a large extent of skin, (and, in some rare instances, the whole surface of the body,) is inflamed. When the inflammation is about terminating in health, which usually occurs between the fourth and sixth days the redness of the affected part diminishes, and assumes a pale, brownish, or yellow color, the swelling also begins to subside, the skin acquires a rough and rugose appearance; and on the following day the scaling off of the skin takes place.

311 ¶ SEAT. The principal seat of erysipelatous inflammation appears on the skin, though sometimes it extends deeply into the cellular structure, occasionally an aggravation of all the above named symptoms, and in weak, nervous, and irritable habits, terminating rapidly in the formation of pus, gangrene, or mortification, and even death. At other times there is a translation of the disease to the internal organs, more especially to the brain, tongue, or mucous membrane, which proves highly dangerous.

312 ¶ CAUSES. The usual causes are, cold, intemperance, suppressed perspiration, and the other common excitements of fever, operating upon an erysipelatous habit, and therefore, producing this peculiar eruption in connection with its febrile attack. In some persons, bruises, wounds, and other local irritating causes, are particularly apt to give rise to this affection; and this is more especially the case in injuries of the scalp. It seems more or less to be connected with a disordered state of the liver, stomach, or alimentary canal. At other times it is dependent on some peculiar atmospheric state, or miasm, and has prevailed in families, hospitals, and districts, epidemically.

313 ¶ TREATMENT. With regard to the general treatment of this disease it is obvious that it must be modified according to the character of the attending fever, and that a course of remediate management, which might be very proper in one modification of the malady, would probably be injurious in another.—1st, when the fever is of a high grade of reaction, pulse full and hard; or when the brain is in a state of excitement, characterised by drowsiness or delirium, *bleeding* should be practiced, in order to relieve the brain and general excitement of the system, and the usual plan to reduce inflammation should be undeviatingly pursued.—2nd, where the fever and inflammation do not run very high, bleeding may be very properly omitted. *Emetics and saline purgatives*, will be highly beneficial, and will, generally, if repeated, entirely remove the complaint, aided by repeated doses of *fever powders*.—3rd, should the fever be low, or of a typhoid type, direct depletion will, of course, be improper. In cases of this kind,

bark and wine have been much recommended; and when the symptoms of prostration are great, it will be necessary to employ them actively. But although tonics and stimulants are essential in cases of a low grade of reaction, mild laxatives are almost equally necessary conjointly with them.—4th, much benefit may be derived by the use of local applications applied to the affected part. The nitrate of silver in solution, in the proportion of five or six grains to the ounce of water, will almost always afford prompt and complete relief. Also the tincture of iodine, as a wash, will, in many cases, even where it has approached to a state of gangrene, suddenly avert its farther progress. Blisters applied to the inflamed surface, will often stop the progress of inflammation, and when a transition of disease takes place to the internal organs, they are almost indispensable prerequisites.—5th, in moderate cases, emetics, saline purgatives, fever powders, and if there is debility or prostration in the latter part of the disease, or approaching gangrene, bark, wine, or quinine, and the external use of iodine, or the nitrate of silver, will be all that is necessary to conduct such cases to a favorable issue.

BOTANIC DEPARTMENT.

95 ¶ This disease may seize any part of the system, but the face and legs are more liable to it, though for the last two or three years it has attacked the tongue, and produced, in some parts, much mortality, under the

name of *black tongue*. The *treatment* consists in changing the morbid action of the system by repeated courses of medicine, using but a small portion of astringents in the teas, and keeping up a regular relaxation of the system, and determination to the surface. The bowels should be kept gently open with laxative bitters, and the alterative teas should be given during the intervals of the courses of medicine. If the external surfaces smell much, they may be poulticed with slippery elm, pond lily, marsh mallows, &c. If the parts show a disposition to gangrene, dregs of No. 6 may be added. If the tongue becomes dark or black, salt, vinegar, and cayenne, may be given, and the mouth may be freely gargled with it; also, injections of the same may be constantly used; sometimes it is best to absorb the matter between the intervals of the bath, with powdered starch, prepared chalk, to prevent re-absorption of the morbid matter collected on the skin. The diet should be light, cooling, and vegetable. The drinks may be acidulated with vegetable acids. The patient must remain still, cool, and unirritated.

PART III.

CHAPTER I.—SECTION I.

SURGERY.

WOUNDS.

314 ¶ SOLUTIONS of continuity on the surface of the body may be divided into *six* kinds, according to the manner in which they are produced, viz: *incised, lacerated, contused, punctured, gunshot, and poisoned*. Incised, when produced by cutting instruments—lacerated, when the parts are forcibly torn asunder—contused, when occasioned by some heavy body or one passing with great velocity—punctured, if made by pointed substances—gunshot, when inflicted by missiles thrown from fire arms—and, poisoned, when occasioned by the introduction of virus through a wounded surface.

OF INCISED WOUNDS.

315 ¶ The lips of the divided parts are more or less separated, according to the extent of injury, and they divide and gape open by the contraction of muscles, in proportion to the transverse or longitudinal incision, and the parts which have received the cut. The wound is generally covered with blood, which is florid or purple, as an artery or vein has been injured. If an artery, the blood flows by jets or pulsations, rap-

idly; if a vein, the bleeding is slow, gradually filling the wound. If the wound extends to parts of vital importance, or an artery be cut, fainting very generally takes place.

316 ¶ TREATMENT. It is nature alone that cures wounds. All that art can do is, to remove obstructions and put the parts in contact, and in such a condition as is the most favorable to her efforts. On being called to a case of incised wound, you are to make pressure upon its surface with a sponge to arrest the bleeding; and if the divided vessels be small, you will soon find it subside under a steady pressure. But if an *artery* of any magnitude has been injured, it should be drawn from the surrounding parts by a pair of forceps, or raised by a tenaculum, and then tied with a very fine ligature, one end of which should be afterwards cut off, that no more space than is absolutely necessary, may be occupied by the thread or silk. So soon as the bleeding ceases, the coagulated blood is to be completely sponged away from the surface and edges of the wound; the edges are then to be brought together and permanently kept so by strips of adhesive plaster, applied over the cut, with spaces between, to allow of the escape of blood or serum, and then smooth bandages are to be applied over and around the part affected. If the wound be in a muscular part, more especially in transverse wounds of muscles, it is required that the position of the limb be carefully attended to, that the wounded muscle may be relaxed as much as possible, and its separated portions approximated. But if the wound has happened in a muscular part which is not supported as in the cheek, a suture is required to preserve approximation; the thread

employed should be as fine as possible, and only as many stitches taken as are absolutely necessary to produce the desired effect.

317 ¶ It is not *always desirable* to produce adhesion. When there is much loss of substance, and the parts must be forcibly drawn together, much additional pain and irritation are occasioned by the attempt at adhesive union; also, when poisons have been introduced into wounds; thus the bite of a rabid animal should be excised as well as cauterized, afterwards, to prevent the terribly dangerous consequences of such an injury. Union, by adhesion, is often prevented: 1st, by too large sutures, and letting them remain too long a time; 2nd, by suffering inflammation to run too high, for the want of proper reduction of the system, by bleeding, generally or locally, or from not employing cooling evaporating lotion. Spirits of wine and water, or sugar of lead and water, should be applied upon the wound and around it. Purging and low diet will be, also, often required; 3rd, the adhesive inflammation is often prevented by the state of the constitution. If the patient be much out of health, or possess an irritable temperament, in such cases, the general health must be restored, the temperature of the parts reduced by evaporating lotions, and opium given to allay the irritability of the system, or the inflammation will proceed beyond the bounds of adhesion, and suppuration will take place; 4th, union, by adhesion, is often frustrated by the physician's impatience; he is anxious to see if union be effected or not, and most absurdly and mischievously raises the dressing, disturbing and often breaking the adhesions, and thus rendering the process of granulation of no effect, when it might have been avoided.

BOTANIC DEPARTMENT.

96 ¶ All *wounds* must be treated according to the agent that gave rise to the state of the system at the time the wound was inflicted, and according to the symptoms that are manifested during the infliction of the wound. If it is a simple incised or cut wound, the parts and edges must be neatly brought together, and permanently secured by adhesive plaster and proper bandages. And the limb must remain at rest, so that the tender and delicate fibres be not ruptured or disturbed during the adhesive process. If any important blood vessels have been severed, they must be secured by ligatures passed round them, if proper pressure does not arrest the flow of blood. All arteries of any magnitude should be promptly tied; if they are small, approximation of the wound and suitable pressure by bandages, will be all sufficient. Should the wound have been received in parts which gape largely open, they may be secured by stitches and proper bandages.

OF LACERATED WOUNDS.

318 ¶ LACERATED wounds do not in general bleed much, though large eruptions may be torn through. They are much more liable to inflame, and the nervous system frequently suffers severely. Spasms of the limbs and tetanus often follow lacerated wounds. Erysipelas, especially, in wounds of the scalp, often supervene.

319 ¶ TREATMENT. The first thing to be done when a person has received a wound, is to examine whether any foreign body be lodged in it, as wood, stone, glass, dirt, bits of cloth, or the like. These, if possible, ought to be extracted, and the wound cleansed, before any dressings be applied. When that cannot be effected with safety, on account of the patient's weakness or loss of blood, they must be suffered to remain in the wound, and afterwards extracted when he is more able to bear it. The wounds may be dressed, and treated as incised wounds, but more care is required in the use of cooling lotions. The application of cups or leeches, and the exhibition of opium, on the first appearance of spasmodic symptoms. Patients, in general, do not bear the same depletion in these as in incised wounds, as it disposes to tetanic symptoms.

BOTANIC DEPARTMENT.

97 ¶ LACERATED *wounds* should be carefully examined, to see if there is not some foreign body or substance lodged in it. In general they may be treated the same as incised wounds, though more attention should be paid to keep down the inflammation, and prevent the first appearance of spasmodic or tetanic affections, as they are much more apt to arise in these lesions than those made by cutting instruments. If the adhesive excitement runs too high, evaporating lotions or tincture of lobelia should be used to allay vital accumulation, and restore an equilibrium in the irritated part.

OF CONTUSED WOUNDS.

320 ¶ CONTUSED wounds differ from the incised and lacerated, in being accompanied with disorganization, blood is extravasated, the cellular tissue is broken down, muscles are bruised, and many parts disorganized. They bleed but little, the extravasation making pressure upon the vessels which are divided. Inflammation, to a considerable extent, must be produced; the dead parts must be separated by a process of ulceration, and granulations will arise to fill up the cavities occasioned by them.

321 ¶ TREATMENT. The treatment of the contused wounds, in principal, consist in facilitating the separation of the contused parts, instead of approximation, as in the incised and lacerated. To effect this object, and to expedite the process, *fomentations* and *poultices* are to be used, which lessen inflammation when too violent, and hasten the suppurative and ulcerative processes. If the inflammation be still considerable, cups or leeches should be applied; but general bleeding from the arm ought not to be had recourse to; for all the powers of the constitution are required to assist in the process of separation and of granulation. When the sloughing or separating process is completed, the fomentations and poultices are to be abandoned, and the parts may be approximated by adhesive plaster or simple dressing be applied to the wound, treating it as a simple ulcer. The bowels should be kept regular, the functions healthy, the system calm by opium, and if the

constitution becomes much debilitated, barks, quinine, wine and other tonics may be freely given.

BOTANIC DEPARTMENT.

98 ¶ **CONTUSED WOUNDS.** These are a class of wounds quite different from the two preceding ones. The parts are disorganized, and consequently require the suppurative process, to throw off the bruised and dead parts, that they may be prepared to fill up by the process of granulation and cicatrization. The disordered parts must be poulticed with slippery elm, flaxseed, pond lily, mallows, wormwood, or some emollient substance. When the parts have sloughed off, they may be healed with elder salve, or some other appropriate healing plaster. If the system becomes weak, debilitated, or prostrated, stimulants of No. 6, composition, or some of the tonic bitters may be freely used, to brace up and give tone to the general system.

OF PUNCTURED WOUNDS.

322 ¶ **PUNCTURED** wounds are produced by pointed bodies, as needles, scissors, splinters, hooks, points of broken bones, &c., and the effects which follow them are often highly dangerous, by occasioning inflammation in the parts, structures, and organs which are injured. The effect, however, depends very much upon the form of the wound, and the state of the constitution. When punctures have been made by clean instruments, noth-

ing can be introduced of a poisonous nature; consequently the effect must depend upon the nature of the wound, the structure injured, and the peculiarity of constitution. Sometimes a slight wound through the skin into the cellular tissue, will be followed by severe pain in the part, a blush around it, and by the absorbent vessels forming red lines from the wound to the absorbent glands, in which they terminate. At other times, punctured wounds have been followed by violent spasmodic and tetanic symptoms, particularly when the tendonous and the nervous parts have been injured. A puncture upon the aponeurosis of the palm of the hand, or sole of the foot, more frequently give rise to these convulsive symptoms. They arise, however, from fractures of bones penetrating important parts.

323 ¶ TREATMENT. The treatment of punctured wounds consist in adopting the following plan: 1st, a lancet or knife should be used to extend the puncture to an incision; 2nd, the surrounding parts should be dressed and rubbed to remove, by the blood which issues, any extraneous matter which may have been introduced; 3rd, lunar caustic, nitric acid, or caustic potash should be applied to the wound. Sometimes hot spirits of turpentine poured into the wound, will answer the purpose; 4th, lotions of warm spirits and sugar of lead may be applied over the part, to prevent too much action when inflammation begins; 5th, cups or leeches may be applied; fomentations, with emollient poultices employed, if the pain and inflammation become considerable; 6th, place the limb in such a position, as the blood shall gravitate towards the body; 7th, keep the bowels open by cathartics; the system unirritated by

opiates, avoiding all stimulating food and drink, until the system be restored.

BOTANIC DEPARTMENT.

99 ¶ PUNCTURED WOUNDS. These, from the nature of the case, are regarded as more dangerous than any class of wounds; being made by pointed instruments, they are very apt to penetrate important organs or parts, and give rise to inflammatory and high tetanic and convulsive spasms. Where the orifice is small at the mouth, it should be enlarged, and strong caustic potash, blood-root, No. 6, or the extract of wood sorrel should be applied to the wound. The great object is, to produce speedy suppuration, in order to allay the excessive irritation and spasmodic twitchings which so frequently accompany this character of wounds. Should the system become irritable, nervines will generally procure rest. The action of lobelia, accompanied with the bath, is one of the greatest relaxants known, and will mostly relieve the patient from that state of rigidity which is peculiar to punctured wounds. The system should be rendered healthy by courses of medicine and such other agents as are calculated to produce and maintain a healthy state of the secretions and excretions.

OF GUN-SHOT WOUNDS.

324 ¶ GUN-SHOT wounds and severe bruises are attended with considerable danger, as they often destroy

the vitality of a portion of the surrounding parts, and consequently slough and suppurate, producing remote danger, which must be carefully guarded against. The slough will not suppurate until from eight to ten days or more, after the wound has been inflicted, and then the patient, without precaution, may lose an immense quantity of blood, and sometimes be destroyed by the hæmorrhage. The slough opens the vessel upon its side, and no retraction ensuing, the bleeding is unrestrained by the coagulation of the blood. The treatment in these cases, consists in such applications as facilitate suppuration. Hence, emollient poultices, in combination with antiseptics, must be freely used until a healthy action is fully established. The patient should be kept at rest until the sloughing process be completed. It will be requisite to put in practice the antiphlogistic plan, and guard the patient from the danger of hæmorrhage, as is directed under the head of wounds of arteries.

BOTANIC DEPARTMENT.

100 ¶ GUN-SHOT WOUNDS. These are dangerous in proportion to the organ injured, and the agent which caused the lesion. Sometimes they are made by balls, wads, powder, or some other foreign bodies. The wound should always be thoroughly examined, and if possible, all bodies extracted, and the wound completely purified. As it consists of the nature of lacerated and contused wounds, it will require to be poulticed with emollient and antiseptic applications, as there exists a

great tendency to putrefaction. The sloughing process should be facilitated, after which, the wound may be dressed and healed up with elder salve, sweet gum, or some other cleansing salve. If the wound is inconsiderable, from the very first, the patient should be put on the best treatment, to keep down the excessive inflammatory excitement and attention should be paid to rest, regimen, &c., that the patient may have every facility for recovery. I well recollect the loss of a cousin when I was a boy, for the want of these necessary precautions.

POISONED WOUNDS.

325 ¶ WOUNDS occasioned by bites of dogs, cats, rats, &c., are often "followed by high inflammation and constitutional irritation many days after the injury has been inflicted, and these cases unite the symptoms of punctured and contused wounds. The first effects upon the constitution arise from the punctures of their pointed teeth; but when the symptoms produced from this cause, subside from ten to fifteen days after, I have known the injured parts inflame and slough, the constitution, as well as the part, undergoes great changes, and the patient becomes excessively reduced."

The *treatment* may consist in enlarging the wound with a cutting instrument, and applying some active caustic application, and using fomentations and soothing poultices to the parts affected.

STINGS AND BITES.

326 ¶ Wounds produced by the sting of bees, wasps, &c., are often attended with great irritation and

inflammation. Some persons are exceedingly sensitive to these impressions; much pain, swelling, &c., and in some instances large pustules arise on the parts that have been stung, requiring medical interference. The bite of spiders and musquitoes, on some persons, will produce small tumors, which are attended with so high a degree of itching and inflammation, that the person cannot refrain from scratching; by a frequent repetition of which he not uncommonly occasions them to ulcerate, particularly, if he be of a robust and full habit.

The *treatment* which seems to be the most efficacious consists in applications of a strong solution of sal. ammoniac and vinegar, volatile ammonia or sugar of lead and laudanum; a strong wash of vinegar and salt is likewise a good application, with some cooling laxative and a spare diet.

SNAKE BITES.

327 ¶ The symptoms which attend on the introduction of the poison of the rattlesnake or copper-head into the blood, are nausea, a full, strong, and agitated pulse; swelling of the whole body; eyes much suffused with blood; sometimes copious bloody sweats, and often bleeding from the eyes, nose and ears; the teeth chatter, and the pains and groans of the sufferer indicate approaching dissolution. There is generally pain in the wounded part, together with a considerable degree of swelling, that is at first red, but which, afterwards becomes livid, and diffuses itself over the neighboring parts. The poison, during the coupling season, is observed to be more active or virulent than at any other time. So deadly are its effects, that it has been known to kill in a few minutes.

328 ¶ TREATMENT. When a person has been wounded by a venomous snake, the first step to be adopted is to pass a tight ligature above the injured part, (where capable of such an application,) so as to prevent the further absorption of the virus into the system, and then to evacuate that which has already been admitted, by sucking the wound and afterwards promoting discharges of blood and serum from it by means of scarification, cupping, excision, or the application of strong caustic. The fresh juice of the rattle snake plantain applied to a wound of this nature, is said to be a powerful antidote to the poison of these reptiles. The *aristolochia serpentaria*, or snake-weed, taken inwardly in the form of infusion, and applied externally in that of poultice, is much used by the negroes against venomous bites. A species of grass called chicken-foot, or the pulp of lemons, mixed up with salt and spirits and applied to the wounded part, has been much praised for the cure of snake bites. The internal and external exhibition of hartshorn, or carbonate of ammonia, we are told has been found to put a sudden stop to the baneful effects of the poison of these reptiles. Quick-lime, sweet oil and honey, have been strongly recommended as an external application to the wounded part occasioned by these poisonous reptiles. The topical application of remedies, it must be remembered, consist in such as will prevent the absorption of the venomous matter into the system ; 2nd, in such agents as will neutralize the virus; 3rd, in such general means as will rid the poison from the animal economy, and produce and maintain a healthy state of the general system. Hence emetics, cathartics and powerful sudorifics will be strongly indicated.

BOTANIC DEPARTMENT.

101 ¶ POISONED WOUNDS. These may be occasioned by poisoned arrows, bites, stings, &c. They are composed of wounds consisting of contused and punctured. In the course of some days, weeks, or months, from the infliction of the wound, the part inflames the general constitution, becomes contaminated or undergoes great changes; the system undergoes a train of spasmodic symptoms which arise, and the patient often dies in a horridly convulsed state. Whenever poison is received into a wound, the first thing to be done is, to cleanse out, thoroughly, and then for fear that the poisonous matter may have been absorbed into the adjacent parts, the wound should be cauterized with caustic potash, so that sloughing may be immediately produced. The general system may be cleansed by courses of medicine administered from time to time, until the virus is removed from the system.

102 ¶ *Stings and bites* by very small animals may be washed with a strong solution of salt and vinegar. When wounds have been received from venomous *snakes* or other reptiles, the parts should be instantly sucked, in order to remove all the poison instantaneously, and then let it be thoroughly washed, and a strong salt poultice be applied to the part. Where there is reason to believe that sufficient poison has been absorbed to effect the general constitution, courses of medicine should be administered. It is supposed, by some, that there are certain antidotes for snake bites, if

so let them be used: at the present state of the medical science, I am inclined to believe that we have but few if any specifics.

PARTICULAR WOUNDS.

329 ¶ *Of wounds of the arteries.* When an artery is cut into or divided, the immediate effect of such injury is to occasion an impetuous hemorrhage of florid blood, which, if the artery be large, whizes through the wound: it flows in pulsations in obedience to the action of the heart. But, if the artery becomes lacerated or punctured, the bleeding is comparatively little at first, but after a while when reaction is fully established, they bleed profusely, especially in large arteries.

330 ¶ TREATMENT. The mode by which bleeding is arrested, may be either *constitutional or local*.—Fainting is the constitutional mode by suspending the diminution of the action of the heart and arteries, and allowing them to contract, and form a coagulum or plug at the enfeebled or wounded surface.

The *local* means consist 1st, in exposing the wound to cool air for a few minutes, if the vessels be small, applying cold applications or astringents, styptics, &c, as cloths or lint dipped in a solution of alum, blue vitriol, or lunar caustic, muriate of mercury or the like, after which the wound may be dressed with compresses and bandages. If the artery be large, and merely punctured or cut into, it should be cut entirely off and drawn out with a tenaculum or forceps, and a fine silk thread securely tied round it, one end cut off and the other brought at the nearest point, and the wound nicely

brought together, and firmly secured by compresses and bandages, which must remain from four to eight days unmolested. It may then be thoroughly moistened with warm water or poultices, and the dressings removed. The ligature around the artery should be gently tightened from time to time, until it comes away. The wound should be similarly dressed as before, from time to time until perfectly healed. If at any time much fungus or proud flesh should appear in the wound, caustic applications should be used until it disappears. When arteries are tied or lacerated, for fear of unexpected hemorrhage, the tourniquet with a loosened strap or a strong broad garter should be passed round the limb, but so slack as easily to admit a small piece of stick to be put under it, which must be twisted in the same manner as a countryman does a cart rope, to secure his loading in case of unusual bleeding, till it stops, that he may have time to send for his attending physician.

OF WOUNDS OF CAVITIES.

331 ¶ With respect to these, it is scarcely necessary to say, in the present state of surgical knowledge, that very extensive wounds of this description, are often recovered from, as is proved by daily observation. Wounds often penetrate the cavity of the abdomen, the chest, and sometimes other important viscera contained therein are severely wounded.

The *treatment* consists in bringing the parts together, and confining them by stitches through the skin, straps of adhesive plaster placed between them, and passing a tight bandage around the chest or abdomen, as the case may be, after which, the patient should gene-

rally lie on the wounded side, be freely bled, kept perfectly quiet, on a low diet, avoiding all irritating and stimulating drinks.

BOTANIC DEPARTMENT.

103 ¶ ARTERIES and cavities are often the subjects of wounds. There is nothing that immediately endangers the life of an individual so much as a wound made in an artery, carrying, as it does, the blood by pulsation, to the extremities, it will soon drain the purple current from the whole system. Every artery of any magnitude, when punctured or cut, should be tied by a fine silk cord. If the vessel be small, compression will generally be sufficient to arrest the hemorrhage. If an artery be partially cut into it should be entirely cut off, so as to give it the power of contracting, by which the mouth of the bleeding vessels will be more closed. In all cases in lacerated, contused, or ulcerated wounds, where there is danger to be apprehended, that the arteries in the adjacent parts will become ruptured, a strong ligature should be passed around the limb, and a stick put through it, so that in a moment it might be twisted sufficiently tight to arrest the bleeding. Hemorrhage from the veins may be arrested by styptic applications and suitable compression made on the vein. Wounds of *cavities* are generally dangerous, though many cases have occurred from quite extensive incised wounds; they should generally be closed and the patient suffered to lie, in most cases, on the wounded side, extraverted

blood is most apt to accumulate on the part dependent. In all cases the system should be strictly attended to, and the antiphlogistic treatment should be vigorously put in practice.

OF SPRAINS.

332 ¶ A *sprain* is an injury occurring to the ligaments or tendons surrounding a joint, which are either forcibly stretched or lacerated. It usually happens from the sudden extension of the joint in a direction which the muscles are unprepared for, and it most commonly takes place in the wrists, knees, and ankles, from sudden falls, by which joints are unexpectedly and forcibly bent. Sprains of the tendons and ligaments are usually attended with considerable pain at the time of the accident, and the part soon becomes swollen and tender; the former symptom arises from the effusion of blood in the first instance, out of the lacerated blood vessels, and becomes subsequently, much increased from inflammation; the tenderness and pain are generally in proportion to the tumefaction. In general we may suppose the effusion to be of the serous kind, as the skin is not altered in color for some time after the accident. But it sometimes happens that the tumid parts are either of a deep red or leaden color from the first, owing to the blood being extravasated from the ruptured vessels.

333 ¶ TREATMENT. In the treatment of sprains *three* circumstances are principally to be attended to: 1st, to arrest the hemorrhage from the lacerated vessels: 2nd, to prevent the occurrence of severe inflammation: and, 3rd, to promote the absorption of effused matter,

and subsequently to restore the motion of the injured parts. The first indication is generally answered by plunging the sprained limb into the coldest water that can be procured as soon after the accident as possible, is often attended with the best effect. After the limb has been thoroughly bathed, its position should be changed to one higher than the body, and astringent applications or evaporating lotions, such as vinegar, ardent spirits, alcohol, &c., may be made use of. The second indication may be fulfilled by general and local blood-letting. Should the pain and tumefaction be considerable, cups or leeches may be freely employed over the seat of mischief, and tepid lotions of sugar of lead and vinegar may be constantly used. The bowels should be kept open by cathartics during the day, and opiates, in severe cases, may be administered at night. The third indication may be met by using mild, stimulating, and discutient applications, such as sal. ammoniac and whiskey or stimulating liniments, plasters, &c. When the effects do not readily yield much benefit may be derived by pouring a continued stream of cold water on the part from a pump or large pitcher; and where the marks of disease have been removed, the motions of the parts should be promoted by moderate, but regular exercise.

BOTANIC DEPARTMENT.

104 ¶ SPRAINS are generally severe, and in many instances, severe ailments. Whenever a part has been severely sprained, the first thing is to prevent the extra-

visation or bleeding from the ruptured vessels. Cold water, pumped or poured on the affected part for some time, is, perhaps the most efficient remedy for this purpose. The second indication will be to prevent the excessive reaction. For this purpose a strong alcoholic tincture of lobelia may be constantly applied to the part, until the inflammatory action subsides. If effusion takes place, the absorbents must be excited to action by stimulating liniments, plasters, or astringent applications, until the effused matter is taken up, and the parts return to their usual and accustomed elasticity.

CHAPTER II.—SECTION I.

DISLOCATIONS.

334 ¶ WHEN a bone is moved out of its place or articulation, so as to impede its proper functions, it is said to be *luxated* or *dislocated*. There are few accidents to which the human body is liable, that are more likely to endanger the reputation of the surgeon than dislocations, as the restorations of the injured parts depend very much upon his decision and immediate assistance. Any person of common sense and resolution, who is present when a dislocation happens, may often be of more service to the patient than the most expert surgeon can after swelling and inflammation have come on: for, if much time escape before the parts are restored to their natural positions, the reduction is rendered proportionally difficult; the cavity becomes filled

up, that the bone can never afterwards be retained in its proper and natural place.

335 ¶ The immediate effects of a dislocation are to produce an alteration in the form of a joint in the length and ordinary position of the limb; also, after a short time, when the muscles have contracted to destroy the motion of the joint. In dislocations of the extremities, the limb is usually shortened; but when the thigh-bone is displaced downwards into the foramen ovale, or the arm downwards and inwards into the arm-pit, the limbs are lengthened. A dull pain is felt from the pressure of the dislocation, the bone rests upon a large nerve; numbness and a partial palsy of the limb are also produced, and the blood vessels, muscles and tendons surrounding the joint are frequently much injured; though in general, the degree of inflammation arising from these injuries is very slight. When a dislocation of a bone takes place, if there be not much extravasation or effusion, the head of the displaced bone may be easily discovered in its new situation, and may be distinctly felt to roll, if the limb be rotated. In some instances the usual prominence of the joint is lost; as when the head of the arm-bone is dislocated into the arm-pit, or an unnatural projection occurs, as in dislocation of the elbow.

336 ¶ TREATMENT. The first and principal object is the reduction of the dislocated bone which I have mentioned, becoming difficult in proportion to the time allowed to escape, after the receipt of the injury. The difficulty in reducing dislocations is chiefly owing to the contraction of the muscles, which is involuntary, and

which becomes greater in proportion to the length of time which has elapsed after the injury. In very muscular persons, therefore, no endeavor should be made to reduce a dislocation of the arm after a lapse of three months; but in persons with little muscular power, reduction may be effected before the expiration of four months after the accident. In displacement of the thigh two months in stout persons, and a few days more in those of relaxed fibre may be allowed. "Constitutional as well as mechanical means are often necessary to assist in the reduction of dislocations, and in many cases, the employment of force only is very improper, as, unassisted by constitutional means, much greater violence must be exercised, and, consequently, the immense suffering and subsequent inflammation will be proportioned to this violence.

337 ¶ Bleeding, the warm bath and such medicines as create nausea, are the best means of assisting, constitutionally, in the reduction of dislocation, as they most readily produce a state of faintness, during which the muscular power is greatly diminished. Bleeding is the most powerful, and at the same time the most speedy method of the three, if the blood be drawn from a large orifice, and the patient be kept in the erect position, it cannot, however, be resorted to in all cases, and might be highly injurious in very old or debilitated persons; but in the young and robust it may be employed with safety and advantage in the mode I have proposed. In using the warm bath, the temperature should be from 100 deg. to 110 deg., and the heat should be kept up until the patient feels faint, when he should be taken out, and the mechanical means should be resorted to

immediately. The desired effect is much sooner produced by abstraction of blood during the time of the bath, than by bleeding, or the bath simply. The third mode, viz., that of exciting nausea by the exhibition of tartarized antimony, in small doses, is not so certain as the former modes; but it is exceedingly useful in keeping up the state of faintness produced by bleeding, or the warm bath, when the dislocation has been of long standing, and likely to require a continued application of mechanical means for its reduction.

338 ¶ MODE OF REDUCTION. When the power of the muscles has been lessened, the reduction of the dislocation should be attempted by fixing one bone, whilst the extremities of the other is drawn towards the socket, by extending the limb. Inattention to this point is one of the greatest causes of failure, in attempting to reduce dislocations, for if the bone, in which the socket is situated, be not fixed, the reduction cannot be accomplished. If, for instance, in attempting to reduce a dislocation of the humerus or arm-bone, the scapula or shoulder blade be not fixed, it is necessarily drawn down with the os humeri or arm-bone, and the extension is more unavailing. If one person holds the scapula or shoulder blade whilst two extends the humerus, or arm-bone, the extension will still be very imperfect; the one bone must be firmly fixed at the time that the other is extended, to render the force effectual. The extension should be gradually and carefully made, and continued rather to fatigue than extend the muscles by violence. Violence is as likely to lacerate sound parts, as to reduce the dislocation—and this I have known to occur.—*Sir Astley Cooper.*

In dislocations of the hip, and in those of the shoulder, of long standing, the force may be applied by pulleys, instead of assistants; as, by the former the extension can be made more gradually and continued. The extension may be made at the wrist, or from the dislocated bone above where the shoulder is out of place. A wetted roller or broad band should be put round the limb, from which extension may be made; and when pulleys are used, a broad leather strap may be buckled on over this roller, to which the hook of the pulley may be fastened.

339 ¶ AFTER TREATMENT. For some time after the reduction of dislocations of long standing, bandages are required to retain the bone in its proper situation; and rest will be necessary to allow of the union of the ruptured ligaments; evaporating lotions, as, camphorated spirits of wine to the part, should be employed, to prevent excess of inflammatory action, and consequently friction will be found of great service in restoring the natural functions of the joint.

BOTANIC DEPARTMENT.

105 ¶ SUFFICIENT has been said above on reducing dislocations, and it would be tautology to repeat the same again, but as this is a compound book, and designed to set before the public, fairly, the two great fundamental principles of physic, it becomes necessary, whenever there is a difference of opinion, to speak out and

let that difference be known. When the system has to be relaxed in setting a large dislocated limb, any unprejudiced mind, that has once tried it, knows that, lobelia taken by the mouth, and largely injected into the system, will speedily relax the whole animal fibre, so that it can be pulled like wax, in almost any direction: then relaxation can be carried to a greater extent by the addition of the vapor bath. When the animal economy is sufficiently relaxed by these two agents, the dislocated limb can be easily reduced. No harm can result from this relaxation. There is no vital fluid extracted from the system. So soon as you cease to administer these relaxants, the whole frame will speedily return to its accustomed tonic rigidity, and the functions of life not impaired, but having been relaxed, will proceed, with increased regularity and former strength.

DISLOCATION OF THE JAW.

340 ¶ The lower jaw may be luxated by yawning, by a blow upon the chin when the mouth is open, or by endeavoring to force any solid substance into the mouth too large for the ordinary aperture. It is known from the patient's being unable to shut his mouth, or to eat any thing, as the teeth of the upper jaw do not correspond with those of the under jaw, and the chin being advanced, the cheeks protruded and the speech indistinct. The usual method of reducing a dislocated jaw is, to set the patient in a low chair, so as an assistant may hold the head firm by pressing it against his breast;

the physician is then to thrust his two thumbs, having on gloves, as far back into the patient's mouth as he can, while his fingers are applied to his jaw externally. After he has got firm hold of the jaw, he is to press it strongly downwards and backwards; by which means the elapsd heads of the jaw may be easily pushed into their former cavities.

DISLOCATION OF THE SHOULDER.

341 ¶ The upper bone of the arm, at the shoulder, may be displaced in *three* directions. The first is downwards and inwards into the arm pit; the second is forwards under the muscles, below the collar bone; the third is backwards, on the back of the shoulder blade, below the spine. From the nature of its articulations, as well as from its exposure to external injuries, this bone is the most subject to dislocation of any bone in the body. It happens to it most frequently downwards. A dislocation of this bone may be known by a depression or cavity on the top of the shoulder, and an inability to move the arm, especially to the head. When the dislocation is downward or forward, the arm is elongated, and a ball or lump is perceived under the armpit; but when it is backwards, there appears a protuberance behind the shoulder, and the arm is thrown forwards towards the breast.

342 ¶ The usual method of reducing dislocations of the shoulder, is to seat the patient upon a low stool; the operator then places his knee half bent, firmly under the armpit, and with his hand takes hold of the arm bone and firmly pulls downward and towards the patient's

body with the lever power of his knee, while with the other hand he directs the head of the bone into the socket. Another very effectual mode is to place the patient on a sofa, table or floor, on his back; the operator sets himself down by his side and places his heel under the armpit, and with his hands takes hold of the fore-arm just above the wrist and straitens himself firmly backwards, bringing the arm towards the patient's side, the lever power being made over the operator's heel. If force sufficient to reduce the dislocation cannot be made with the arms, a towel or strong band may be wrapped round the arm and placed over the operator's shoulders, and with his arms and the towel he will be able to exert sufficient power to reduce the limb.

DISLOCATION OF THE ELBOW.

343 ¶ The bones of the fore-arm may be dislocated in any direction. The most common is externally or internally. When this is the case, a protuberance may be observed on that side of the arm towards which the bone is pushed; there is much inability in bending the arm, and the swelling moves when the hand is rotated. Two assistants are generally necessary for reducing a dislocation of the elbow. One of them must lay hold of the arm above, and the other below the joint, and make a pretty strong extension, while the operator returns the bones into their proper place. Bending the arm around a bed post, or over the back of a chair, will also effect the reduction. After the reduction, the arm should be bandaged in the bent position, at rather less than a right angle with the upper arm; the bandage should be kept wet with an evaporating lotion, and the limb supported by a sling.

DISLOCATION OF THE HIP JOINT.

344 ¶ The head of the thigh bone may be thrown from its socket in *four* directions: first, upwards; second, downwards; third, backwards and upwards; fourth, forwards and upwards.

1st. Dislocation upwards on the body of the hip bone, is the most frequent of the displacements of the thigh. The limb on the injured side, is from an inch and a half to two inches and a half shorter, than the sound limb. The knee and foot are turned inwards, the knee being a little advanced upon the other, and the great toe resting upon the instep of the other foot; the leg cannot be separated from the other, and the roundness of the hip will have disappeared.

345 ¶ *To reduce it*, after bleeding, warm bath, and nauseating doses of tartar emetic, as far as may be necessary, lay the patient on his back, his head nearly touching some solid post, and pass a sheet between his legs next to the affected side, and bring one end over and the other parallel with the body, and fasten them to the post at his head. A strong girt or wetted roller should next be placed tightly on the lower part of the thigh, just above the knee of the dislocated limb, and put into the hands of an assistant; the knee should be slightly bent, and the thigh directed across the sound one just above the knee. The assistants should gradually and carefully commence the extension, and continue it until the patient begins to complain of pain, when they should rest a little, without relaxing, so as to fatigue the muscles—and so on, extending and suspending until the

muscles yield, and the operator finds the head of the bone is brought near to the socket, whilst he rotates the knee and foot gently, under which motion the reduction will be usually accomplished.

346 ¶ *Dislocation downwards* generally happens when a person falls on the feet or knees, when they are widely separated from each other. The limb is generally about two inches longer than the other, and the head of the bone can be felt by pressing on the inner and upper part of the thigh in their person. When the foot of the dislocated limb is on the ground, the body is bent forward, or, if the body be erect, the knee is advanced. The foot is generally neither turned outwards or inwards. A slight hollow may be perceived in the groin; the knee is widely separated from the other, and cannot be brought to it without great pain. *To reduce it*, place and fix the patient as before; then grasp the ancle of the dislocated extremity, and draw the limb over the sound one, and thus the head of the bone will slip into its proper cavity. It is generally necessary to fix the hips firmly, or the full advantage of the lever power will not be gained, on account of the pelvis moving in the same direction with the head of the bone. Placing the patient upon a bed, so that one of the bed posts is received between the upper part of the thighs, and then forcing the injured limb across the sound one, will also effect the same purpose.

¶ 347 *Dislocation backwards' and upwards*, is the most difficult to detect and to reduce. The injured limb is from a half to one inch shorter than the other; the knee and foot are turned inwards, but not so much

as in the first dislocation; the toe rests against the ball of the toe of the other foot; in a standing position, the toe reaches the ground, but the heel does not; the knee is bent, and is brought a little forwards.

To reduce it, "which is a very difficult matter, lay the patient upon his sound side, and apply the girths and bandages precisely as directed in the "*first dislocation*." The dislocated thigh is then to be brought across the middle of the other thigh, and extension is to be made by assistants, at an angle of forty-five degrees with the body. At the time extension is being made, an assistant with a towel passed under the thigh and over his neck and his hands, pressing on the hips, must lift the head of the bone as it is drawn towards the socket and over its lip."

348 ¶ *Dislocation forwards and upwards*, is very easily detected. The limb is an inch shorter than the other, the knee and foot are turned outwards, and cannot be rotated inwards. The head of the bone may be distinctly felt in the groin, and may be seen to move by moving the thigh. *To reduce it*, place the patient upon a table, on his sound side, then pass a girth between the thighs, at the upper and inner part of the injured limb, and fix this to a staple or post, rather before the line of the patient's body. The wetted roller, straps, buckles, assistants, or pulleys, should then be placed above the knee, as before directed. The extension is to be made downwards and backwards. The application of the towel at the upper part of the thigh, and lifting the head of the bone by it over the edge of the socket, is also necessary in reducing this form of displacement.

349 ¶ Dislocation of the *knees, ankles, and toes*, are reduced in the same manner as those of the upper extremities, viz: by making an extension in opposite directions, while the operator replaces the bones. In many cases, however, the extension alone is sufficient, and the bone will slip into its place merely by pulling the limb with sufficient force: skill, and address, will often succeed better than much force. One man, with force properly applied, will succeed better than four who do not properly apply their power. Any man, with common understanding, ambition, and perseverance, can set any common case of dislocation.

CHAPTER III.—SECTION I.

FRACTURES OR BROKEN BONES.

350 ¶ FRACTURES, like dislocations, are accidents which frequently occur, and every person who is liable to these casualties, instead of poring over novels, stories, dreams, and useless reading, should make himself acquainted with the fundamental principles of the healing art, that he may be useful to the world, and spread universal peace, happiness, and knowledge, in every sphere in which he may be called to act. The first thing is to determine the nature of the fracture, whether it is oblique, transverse, one or more bones broken, or accompanied with dislocation, &c. The most unequivocal symptoms of fracture are, the *crepitus* or grating noise, distinguished on moving the limb occasioned by

the fractured ends—the separation and inequalities of the ends of the fracture—when the bone is superficial—the change in the form of the limb and the shortening of it, &c.

351 ¶ The special *treatment* of fractures in general, embraces *three* principal *indications*: 1st, to reduce the pieces of bone into their natural situation: 2nd, to secure and keep them in their place by proper bandages and splints: 3rd, to prevent unpleasant symptoms, and to relieve them, when in spite of every effort to the contrary they do arise. The first indication is fulfilled by the physician putting the bones in approximation; and the second by placing two or more splints made of leather, pasteboard, or thin slips of wood, around the part on the outside of a smoothe strip of cambrick, first put around the fractured limb, over these splints bandages or rollers may be smoothly applied. The splints should be at least two-thirds as long as the limb, and in most cases fully as long. If the fracture is oblique, and the bones slip by each other, distention must be made until the bones unite so as to hold them to their proper place. The bandage for the lower extremities, is that which is made with twelve or eighteen tails. It is much easier applied and taken off than rollers, and answers all the purposes of retention, equally as well. It has been customary when a bone was broken to keep the limb for five or six weeks continually on the *stretch*, but this is a bad posture. The best situation is to keep the joint a little bent. This is the posture into which many animals put their limbs when they go to rest, and in which fewest muscles are upon the stretch. It is easily effected by

either laying the patient upon his side, or making the bed so as to favor this position of the limb. "If any of the large bones which support the body are broken, the patient must keep his bed for several weeks. It is not necessary, however, that he should be all the time upon his back, as is customary. This situation sinks the spirits, galls and frets the patient's skin, and renders him very uneasy. After the second week he may be gently raised up, and may sit several hours, supported by a bed chair or the like, which will greatly relieve him."

352 ¶ When a fracture is accompanied by a wound it must be dressed in all respects as a wound. Bone setters ought carefully to examine whether the bone be not shattered or broken into several pieces. In this case it will sometimes be necessary to have the limb immediately amputated, otherwise gangrene or mortification may ensue. I have known several valuable lives lost in these cases, through the indiscretion of friends and physicians. All that art can do towards the cure of a broken bone is, to lay it perfectly straight, and to keep it quite easy and cool by astringent and evaporating lotions, such as sugar of lead, vinegar, whiskey, camphorated spirits, &c. The bandages should be wet with some of these at every dressing, if the inflammation runs high. When a large bone is broken the patient should be bled (if young and of full habit,) and have his bowels kept freely open. He should remain cool and quiet, use a spare diet, and such articles of medicine as will lessen the inflammatory action of the system, and maintain a healthy state of all the functions and organs of the body.

BOTANIC DEPARTMENT.

106 ¶ FRACTURES of bones are casualties which we often meet with, and which perhaps, test the skill and judgment of physicians, as much, if not more, than any department of medical science. To know how to detect the nature of a fracture, and apply the splints and proper bandages, is truly a nice point. Whenever it is supposed that a person has received a fracture, the first thing is to ascertain the fact; and secondly, what kind of a fracture—whether it be oblique or transverse—whether one or two bones are broken—whether it be simple or compound—and, lastly, whether the chance of recovery, under good treatment, is favorable, without the loss of the limb. All these matters must be duly considered, as they often tell for weal or woe. Having determined to save the limb, the parts must be nicely put together, and well secured with proper bandages. If the fracture be so oblique that the bones slip by each other, so as to shorten the limb, constant and permanent distension must be made, until the bones adhere firm enough to hold them to their proper place. In oblique fractures the limb should be frequently measured to see if there has been any contraction. The antiphlogistic plan of treatment should be adopted according to the age, habit, and weather. After the inflammatory excitement has passed by, the patient may be allowed a generous nutrient diet; and in cases where there is much weakness or debility, tonics or stimulants may be freely given.

PART IV.

CHAPTER I.—SECTION I.

ANATOMY.

353 ¶ ANATOMY literally signifies “the dissection or dividing of organized substances, to expose the structure, situation, and uses of parts.” Anatomy is divided into that of the animals strictly so called; also, denominated *zootomy*, and that of vegetables called *phytotomy*. It is also divided into *general or comparative* anatomy, which embraces all organized bodies compared with that of the human body, and *special* anatomy a single species of organized bodies. Man, the most complicated of all beings, is the principal subject of this science. The special aim of anatomy is the knowledge of the human body, of the different parts of which it is composed, and of the relations of those parts with respect to each other. We have not time nor space to speak of the different parts of anatomy, but merely to give a table of contents. *Man* is so named from “turning and looking upwards”—a being consisting of two constituent and essential parts—a rational *soul* and organical *body*—he is compounded of solids and fluids—a vital principle, and is distinguished from every other animal, by a *spirit*. The *solids* are generally in the ratio of one to eight. The humors or fluids are classed according to their uses in the animal economy. The circulating or that which is contained in the veins and arteries, is the most considerable. The first order

of solids is constituted of *filaments*. A *filament* is the elementary solid. A number of these filaments united constitute a *fibre*. A particular arrangement of these fibres forms a *tissue*. These tissues united and compounded constitute an *organ*. An assemblage of organs, concurring to the same end, constitute an *apparatus*. A *system*, on the other hand, is an assemblage of organs, all of which possess the same or similar structure. These *tissues* which have been mentioned, when arranged and compounded, in every possible modification and variety, constitute or form the nice and delicate structure of the *corporeal* system. Sometimes it is woven into sheaths or tubes for the purpose of circulating the fluids. Sometimes it is hard or soft, and modified and combined in different forms of animal matter, and constituting the bones or frame work of all the solids, the reservoirs or outlets of the system.

TABLE OF TISSUES.

1 Osseous		5 Cellular	
2 Fibrous	{ <i>Fibrous.</i> <i>Fibro-cartilaginous.</i> <i>Dermoid.</i>	6 Nervous	{ <i>Cerebral.</i> <i>Ganglionic.</i>
3 Muscular	{ <i>Voluntary.</i> <i>Involuntary.</i>	7 Erectile	
		8 Mucous	
		9 Serous	
4 Vascular	{ <i>Arterial.</i> <i>Venous.</i> <i>Lymphatic.</i>	10 Epidermic	{ <i>Pileous.</i> <i>Epidermoid.</i>
		11 Parenchymatous	{ <i>Glandular</i>

FUNCTIONS.

354 ¶ HAVING described the tissues we pass to the consideration of the functions, the character of each of which is, that, it fulfills a special and distinct office in the animal economy, for which it has an *organ* or instrument, or an evident apparatus of organs. The

oldest division of functions was into *vital*, *natural*, and *animal*; but the late division is perhaps preferable.

TABLE OF FUNCTIONS.

I <i>Animal, or of relation.</i>	{	1 Sensibility.
		2 Muscular motion.
		3 Expressions or language.
II <i>Nutritive.</i>	{	4 Digestion.
		5 Absorption.
		6 Respiration.
		7 Circulation.
		8 Nutrition.
		9 Calorification.
III <i>Reproductive.</i>	{	10 Secretion.
		11 Generation.

OSTEOLOGY.

355 ¶ THIS means "A discourse on the bones." *Bone*, *os*, *bones*, *ossa*. These are hard, dry, and insensible parts of the body: they form the *skeleton*, and give shape to the body: contain and defend vital or important parts, and afford an attachment and form levers for the various muscles to act upon. There are commonly reckoned 248 bones in the human system.

TABLE OF BONES.

	No.
Bones of the <i>cranium</i> or <i>skull</i> .	{ Frontal, (<i>Os Frontis.</i>) - - - - - 1
	{ Parietal, (<i>Ossa Parietalia.</i>) - - - - - 2
	{ Occipital, (<i>Os Occipitis.</i>) - - - - - 1
	{ Temporal, (<i>Ossa Temporum.</i>) - - - - - 2
	{ Ethmoid, (<i>Os Ethmoides.</i>) - - - - - 1
	{ Sphenoid, (<i>Os Sphenoides.</i>) - - - - - 1
Bones of the <i>face</i> .	{ Superior Maxillare, or upper jaw, (<i>Os</i> <i>Maxillaria Superiora.</i>) - - - - - 2
	{ Nasal, (<i>Ossa Nasi.</i>) - - - - - 2
	{ Lachrymal, (<i>Ossa Unguis.</i>) - - - - - 2
	{ Malar, (<i>Ossa Malarium.</i>) - - - - - 2
	{ Palate, (<i>Ossa Palati.</i>) - - - - - 2
	{ Inferior spongy, (<i>Ossa Spongiosa.</i>) - - - 2
	{ Vomer, (<i>Os Vomer.</i>) - - - - - 1
	{ Inferior Maxillare, (<i>Os Max. Inferioris.</i>) 1

TABLE OF BONES—CONTINUED.

		No.
<i>Dentes, or teeth.</i>	{ Fore-teeth, (<i>Incisores.</i>) - - - - -	8
	{ Eye-teeth, (<i>Cuspidati.</i>) - - - - -	4
	{ Small grinders, (<i>Bicuspides.</i>) - - - - -	8
	{ Large grinders, (<i>Molares.</i>) - - - - -	12
Bone of the <i>tongue.</i>	{ Hyoid, (<i>Os Hyoides.</i>) - - - - -	1
Bones of the <i>ear</i> within the tempo- ral bones.	{ (<i>Os Malleus.</i>) - - - - -	2
	{ (<i>Os Incus.</i>) - - - - -	2
	{ (<i>Os Stapes.</i>) - - - - -	2
	{ (<i>Os Orbitulare.</i>) - - - - -	2
Bones of the <i>spine.</i>	{ Vertebrae, { (<i>Cervical.</i>) - - - - -	7
	{ (<i>Dorsal.</i>) - - - - -	12
	{ (<i>Lumbar.</i>) - - - - -	5
	{ Sacrum. - - - - -	1
Bones of the <i>thorax.</i>	{ Coccygis. - - - - -	1
	{ Breast bone, (<i>Sternum.</i>) - - - - -	1
Bones of the <i>pelvis.</i>	{ Ribs, (<i>Costa.</i>) - - - - -	24
	{ Innominata os, { (<i>Ilium.</i>) - - - - -	2
	{ (<i>Ischium.</i>) - - - - -	2
	{ (<i>Pubes.</i>) - - - - -	2
The <i>shoulder.</i>	{ Collar bone, (<i>Clavicle.</i>) - - - - -	2
	{ Shoulder blade, (<i>Scapula.</i>) - - - - -	2
The <i>arm.</i>	{ (<i>Os Humerus.</i>) - - - - -	2
The <i>fore-arm.</i>	{ Inner bone, (<i>Ulna.</i>) - - - - -	2
	{ Outer bone, (<i>Radius.</i>) - - - - -	2
<i>Corpus or wrist.</i>	{ <i>Os Scaphoides.</i> - - - - -	2
	{ <i>Os Lunare.</i> - - - - -	2
	{ <i>Os Cuneiforme.</i> - - - - -	2
	{ <i>Os Pisiforme.</i> - - - - -	2
	{ <i>Os Trapezium.</i> - - - - -	2
	{ <i>Os Trapezoides.</i> - - - - -	2
	{ <i>Os Magnum.</i> - - - - -	2
	{ <i>Os Unciforme.</i> - - - - -	2
<i>Metacarpus or hand.</i>	- - - - -	10
<i>Phalanges or fingers.</i>	- - - - -	28
The <i>thigh.</i>	{ Femur. - - - - -	2
The <i>leg.</i>	{ Shin bone, (<i>Tibia.</i>) - - - - -	2
	{ Outer bone, (<i>Fibula.</i>) - - - - -	2
<i>Knee-pan.</i>	{ Patella. - - - - -	2

TABLE OF BONES—CONTINUED.

	No.
<i>Tarsus</i> or <i>instep</i> . {	
Os Astragalus. - - - - -	2
Os Calcis. - - - - -	2
Os Naviculare. - - - - -	2
Os Cuboides. - - - - -	2
Os Cuneiforme externum. - - - - -	2
Os Cuneiforme medium. - - - - -	2
Os Cuneiforme internum. - - - - -	2
<i>Metatarsus</i> or <i>foot</i> . - - - - -	10
<i>Phalanges</i> or <i>toes</i> . - - - - -	28
<i>Sesamoid</i> bones of the thumb and great toe occasionally found. - - - - -	8
Total, - - - - -	248

CARTILAGES.

356 ¶ *Cartilages* are white elastic glistening substances, growing to bones, and commonly called *gristle*. They cover the movable extremities of bones, to facilitate their movements and act as elastic cushions in order to prevent friction of the bones.

MYOLOGY.

357 ¶ *THIS* term signifies “A Description of the Muscles.” *Muscles* are soft, fibrous, red colored substances or distinct portions of flesh, and extend from one bone to another, and are the agents of all movements. They are susceptible of contraction and relaxation, and are subject to the will; hence they are called voluntary muscles. Besides these, there are other muscles, called involuntary, because their motions are not dependent on the will, as those of the stomach, bladder, intestines, &c. Many of these muscles terminate with a white

glistening extremity, called *tendon*. If it were not for the idea of being called *scientific*, it would be of no use whatever; of treating, or even mentioning the names of but few muscles, and those only which guide the surgeon in some special operations. For the sake of the student I will mention the most important.

The skin that covers the skull is moved by a single broad muscle, the *Occipito Frontalis*. On the anterior side of the neck are two muscles or layers. 1. *Musculus Cutaneus*; 2. *Sterno Cleido Mastoideus*. Muscles situated on the anterior part of the chest may be divided into two layers: 1. *Pectoralis Major*. Second layer consists of three muscles: 1. *Subclavius*; 2. *Pectoralis Minor*; 3. *Serratus Magnus*. The muscles situated between the ribs are *external* and *internal—intercostal*. The muscles situated on the anterior part of the abdomen consist of three broad layers on each side of the belly, and of one in front: 1. *Obliquus Descendens Externus*; 2. *Obliquus Descendens Internus*; 3. *Transversalis*. The long middle muscle is the *Rectus Abdominis*. The short one is the *Pyramidalis*. The great muscle situated within and between the chest and abdomen is called the *Diaphragm*. The muscles of the loins are divided into three pair: 1. *Quadratus Lumborum*; 2. *Psoas Magnus*; 3. *Iliacus Internus*. The muscles situated on the posterior part of the trunk may be divided into four layers and a single pair. The first layer consists of two muscles, which cover the whole posterior part of the trunk: 1. *Trapezius*; 2. *Latissimus Dorsi*. The muscles of the superior extremities compose those of the scapula, os humeri, and fore-arm. Those on the scapula behind are: 1. *Supraspinatus*; 2. *Infraspinatus*; 3. *Teres*

Minor. Along the inferior costa of the scapula is the *Teres Major*. The two before the scapula are: 1. *Deltoides*; 2. *Coraco-Brachialis*. Muscles situated on the *Os Humeri*, are called muscles of the cubit or fore-arm, and they consist of two before and two behind. Before are: 1. *Biceps Flexor Cubiti*; 2. *Brachialis Internus*. Behind are: 1. *Triceps Extensor Cubiti*; 2. *Anconeus*. The muscles situated on the fore-arm, are mostly the flexors to bend the wrist, and extensors to extend the wrist and hand. The muscles of the inferior extremities may be divided into those situated on the *outside* of the pelvis, on the *thigh*, on the *leg*, and on the *foot*. The muscles on the outside of the *pelvis* are called *muscles of the thigh*, and are composed of *one layer before*, and *three layers behind*. The layer before consists of five muscles: 1. *Psoas Magnus*; 2. *Iliacus Internus*; 3. *Pectinalis*; 4. *Triceps Adductor Femoris*; 5. *Obturator Externus*. First layer behind is the *Gluteus Maximus*. Second layer the *Gluteus Medius*. Third layer consists of four small muscles. The muscles situated on the *thigh* are called muscles of the *leg*, and consist of *one*, on the *outside*; *two* on the *inside*; *four before* and *four behind*. On the outside is the *Tensor Vaginæ Femoris*. On the inside are: 1. *Sartorius*; 2. *Gracilis*. Before are: 1. *Rectus*; 2. *Vastus Externus*; 3. *Vastus Internus*; 4. *Cruralis*. Behind are: 1. *Semitendinosus*; 2. *Semimembranosus*. (These two last form what is called the *inner hamstring*;) 3. *Biceps Flexor Cruris*. This last forms the *outer hamstring*;) 4. *Popliteus*. Muscles situated on the *leg*. On the front are: 1. *Tibialis Anticus*; 2. *Extensor Proprius Policis Pedis*; 3. *Ex-*

tensor Longus Digitorum Pedis; 4. *Peroneus Tertius*. On the outside are: 1. *Peroneus Longus*; 2. *Peroneus Brevis*. On the back; 1. *Gastrocnemius Externus*; 2. *Internus*; 3. *Plantaris*; 4. *Flexor Longus Digitorum Pedis*; 5. *Tibialis Posticus*; 6. *Flexor Longus Pellicis Pedis*. The muscles of the foot are many. But enough for the present.

SYNDESMOLOGY.

358 ¶ This signifies the "Doctrine of the Ligaments." *Ligaments* are elastic and strong membranes, connecting the extremities of the moveable bones, and sometimes the muscles.

ANGIOLOGY.

359 ¶ This means a "Description of the structure and distribution of the vessels. *Vessels* are solids, having the form of canals, in which fluids circulate. They are named according to the fluids they convey. 1. *Arteries* are long membranous pulsating canals, that arise from the heart, and gradually become less as they proceed from it. They generally terminate in the veins, or small exhaling vessels, and carry the blood by a *pulsation* from the heart to every part of the body, for nutrition, preservation of life, generation of heat, and the formation of the different fluids and solids.

A TABLE OF THE ARTERIES.

360 ¶ All the arteries originate from the pulmonary artery and the aorta. The pulmonary emerges from

the right ventricle of the heart, soon divides into a *right* and *left* branch, which are distributed by innumerable ramifications through the lungs. The *aorta* arises from the left ventricle of the heart, and supplies every part of the body with blood in the following order. The *aorta*, immediately after leaving the heart, forms a curvature or *arch*, and then proceeds down. At the *arch* it gives three branches: 1. The *Arteria Innominata*, which divides into the *right carotid* and *right subclavian*; 2. The *left carotid*; 3. The *left subclavian*. 1. The *carotids* are divided into *external* and *internal*. The *external carotids* are principally appropriated to the exterior of the head, and the upper parts of the neck. The *internal carotid* is appropriated to the interior of the cranium. The *subclavians* give off many branches to the breast, trachea, vertebra, ribs, scapula, &c.; and when it arrives at the arm-pit, it is called *axillary artery*, and when it reaches the arm, it receives the name of *brachial*. About the bend of the arm it is again divided into the *Ulnar* and *Radial*, which proceed downward. As the *descending aorta* passes down from the arch, it sends off arteries to the chest, the abdominal viscera, and in the pelvis it bifurcates into the *Iliacs*; each of which divides into *external* and *internal*. The *internal* is distributed to the viscera of the pelvis. The *external* then passes under Poupart's ligament, and is called the *femoral* artery; having reached the ham, it is termed *popliteal*. It then divides into the *anterior* and *posterior tibial*.

VEINS.

361 ¶ *Veins* are long membranous canals, that arise from the extremities of the arteries and return the blood from every part of the body to the heart. The blood is returned from every part of the body except the lungs into the right auricle, from three sources: 1st, the *vena cava superior*, which brings it from the head, neck, thorax, and superior extremities; 2nd, the *vena cava inferior*, from the abdomen and inferior extremities; 3d, the *coronary vein*, receives it from the coronary arteries of the heart.

1st. The *vena cava superior* is made up of the following veins, viz: at the end of the arm the *cephalic*, *basilic* and *median*, unite above the bend of the arm and form the *brachial*, which receives all their blood and is continued into the armpit, where it is called the *axillary*; it then passes under the clavicle, receiving the name of the *subclavian*, which unites with the *external* and *internal jugular* veins and the *vertebral*, which bring the blood from the head, neck, vertebræ, all uniting with each other and with other branches from the adjacent parts, forming what is called the *vena cava descendens*.

2d. The *vena cava inferior* is made up of the *subpopliteal*, in the ham, and as it passes on the anterior part it is called the *femoral*; when it passes into the cavity of the abdomen, it receives the name of *external iliac*. It then passes on, uniting with the *internal iliacs*, and receiving branches from all the abdominal viscera until it arrives at the right auricle of the heart,

into which it evacuates all the blood from the abdominal contents and lower extremities.

ABSORBENTS.

362 ¶ *Lacteals* or *chyliferous* vessels, are very small fine tubes or vessels which unite and re-unite, and at last terminate in one common trunk, which empties itself into the blood near the heart.

Lymphatic or *absorbent* vessels, are small, fine tubes, which originate in every part of the human body. They absorb or take up a fluid called the lymph, in all the different parts of the body, and convey it to the chyle to be mixed with it in one common trunk. These two sets of vessels, viz. the *lacteals* and *lymphatics*, form what is called the *absorbent system*. This system is of great use to the animal economy. It supplies the blood with nourishment, and removes the superfluous vapor from the cells dispensed throughout every part of the body. It conveys into the system medicines which are applied to the surface of the body, and removes the hard or soft parts of the system.

NEUROLOGY.

363 ¶ This term means a "description of the nerves." *Nerves* are long, white and solid chords, that serve for sensation, and by which each part is endowed with vitality. They originate from the brain and spinal marrow, and are distributed upon the organs of sense, and every part that has feeling or sensibility in it. The use of the nerves is to convey impressions to the brain

from all sensitive parts, and the principles of motion and sensibility from the brain to every part of the system.

TABLE OF NERVES.

1. The *first pair*, called *Olfactory*, go to the nose.
2. The *second pair*, called *Optic*, go to the eye.
3. The *third pair*, called *Matores Oculorum*, go to parts about the eye.
4. The *fourth pair*, called *Pathetici*, go to the muscles about the eyes and face.
5. The *fifth pair*, called *Trigemini*, go to the parts about the upper and lower jaw.
6. The *sixth pair*, called *Abducentes*, unite with a branch from the fifth, and form the intercostal.
7. The *seventh pair*, called *Auditory*, go to the ear and face.
8. The *eighth pair*, called *par vagum*, unite with a *plexus* in the chest, abdomen, &c.
9. The *ninth pair*, called *Lingual*, go to the tongue.

There are also eight pair of *Cervical*, twelve *Dorsal*, five *Lumbar*, and five *Sacral* nerves.

ADENOLOGY.

364 ¶ This term signifies a “discourse on the glands.” *Glands* are small organic bodies or secreting organs, situated in many parts of the system, for the purpose of secreting, separating, or altering some peculiar liquid or fluid, which is poured out by one or more excretory ducts or tubes. They are generally divided into *four classes*. 1st, *simple glands* are covered with a peculiar membrane, and have a proper excretory duct, through which they evacuate the liquor contained in their cavity, as those of the nose, tongue, fauces, stom-

ach, intestines, and bladder. 2nd, *compounds of simple* glands, having their excretory ducts united, as those of the face, lips, and some parts of the skin. 3rd, *conglobate*, or as they are called *lymphatic glands*, having no excretory duct, as those of the mesenteric, lumbar, &c. 4th, *conglomerate*, composed of a congeries of many simple glands; the excretory ducts of which open into one common trunk, as the parotid, pancreatic, and salival glands.

MEMBRANES.

365 ¶ *Membranes* are thin lining coats or substances spread out in the shape of a web, and envelope all the organs, and line the cavities and reservoirs of the system. They are generally divided into *mucous*, *serous* and *cellular*. Thus we have travelled in a brief manner, over most of the constituent parts of the human system.

PART V.

CHAPTER I.—SECTION I.

MINERAL KINGDOM.

366 ¶ THE world is made up of *three kingdoms*—the *mineral*, *animal*, and *vegetable*. The *God* of nature has furnished us with these, for the purpose of supplying our wants with implements, clothing, food,

and medicine. The *metallic* kingdom is the hardest and most durable in nature, and the metals are found mostly in the bowels of the earth. They are met with in different combinations with other matters, and sometimes with each other, though rarely in a pure metallic state. They are endowed like all matter, with two kinds of properties, *physical* and *chemical*. They have a peculiar lustre, are fusible by heat, and possess the properties of *extension*, *impenetrability*, extreme *divisibility*, *gravitation*, *porosity*, and *indestructibility*. Some metals possess the property of maleability. They are all conductors of electricity and heat, and are capable of combining, in their melted state, with each other in almost every proportion, constituting the important order of metallic alloys. They are capable, when exposed to heat, of combining with oxygen, forming *oxides*; with chlorine, forming *chlorides*; with iodine, forming *iodides*, and also with other substances, forming compounds bearing the name of ingredients with which they are compounded. They exist mostly in mountainous districts, in various states of combination, and are called *ores*. Ores are also met with in the cavities and crevices of rocks, forming what are termed *veins*. There are some mountains which consist almost entirely of iron ore. The number of metals, the existence of which is admitted by chemists, amounts to *forty-two*. The following table contains the names of those that have been procured in a states of purity: 1 *Gold*, 2 *Silver*, 3 *Iron*, 4 *Copper*, 5 *Mercury*, 6 *Lead*, 7 *Tin*, 8 *Antimony*, 9 *Bismush*, 10 *Zinc*, 11 *Arsenic*, 12 *Cobalt*, 13 *Platinum*, 14 *Nickel*, 15 *Manganese*, 16 *Tungsten*, 17 *Tellurium*, 18 *Molybdenum*, 19 *Uranium*, 20 *Titanium*, 21 *Chromium*, 23 *Pal-*

ladium, 24 *Rhodium*, 25 *Iridium*, 26 *Osmium*, 27 *Cerium*, 28 *Potassium*, 29 *Sodium*, 30 *Barium*, 31 *Strontium*, 32 *Calcium*, 33 *Cadmium*, 34 *Lithium*, 35 *Silicium*, 36 *Zirconium*, 37 *Aluminum*, 38 *Glucinum*, 39 *Yttrium*, 40 *Thorinum*, 41 *Magnesium*. 42 *Vanadium*. Whatever may be the revolutions of chemical nomenclature, mankind have, and ever will consider *ten* of these metallic bases as *earths*. Although there seems to be an almost infinite variety of earthy substances scattered over the surface of the globe, yet when we examine them with a chemical eye, we find, not without surprise, that all the earth and stones which we tread under our feet and which compose the largest rocks, as well as the numerous different specimens which adorn the cabinets of the curious, are compounds of a very few simple or elementary earths which have for their base metallic substances. Analysis has shown that the various stony and pulverulent masses which form our mountains, valleys and plains, might be considered as resulting from the combination or intermixture in various numbers and proportions of the *nine* primitive earths, which are not soluble in water or by heat, to which the following names were given: 1 *Silex*, 2 *Zircon*, 3 *Thorina*, 4 *Yttria*, 5 *Glucina*, 6 *Alumina*, 7 *Magnesia*, 8 *Lime*, 9 *Strontia*, 10 *Baryta*, 11 *Lithia*, 12 *Soda*, 13 *Potassa*. These three last, *Potash*, *Soda*, and *Lithia*, are called *alkalies*, because they combine with *acids* so as to neutralize or impair their activity and produce *salts*. Acidity and alkalinity are the two correlative terms of one species of combination. *Baryta*, *Strontia*, *Lime*, and *Magnesia*, are called *alkaline earths*, because while in their appearance they resemble the earths, they are similar to the alkalies, in having a

strong alkaline reaction with test paper and in neutralizing acids. Alumina, Glucina, Yttria, Thoria, Zencon, and Silex, are called *pure earths*. They are white and of an earthy appearance, in their ordinary state are insoluble in water and do not effect the color of litmus paper. Alkalies and acids have the property, when combined, of neutralizing each other, and hence they form what is called *neutral salts*. These salts formed from acids, combine with alkalies, earths, and oxydes, and form a vast number of medical agents amounting to many thousands. The mineral, animal, and vegetable kingdoms may give rise to another class of remedial agents called *acids*. They are those compounds which have a *sour taste* and possess the power of changing vegetable blues to red, and uniting in definite portions with alkalies, earths, and metallic oxydes, with the effect of producing a combination in which the properties of its constituents are mutually destroyed. This class is very considerable.

SECTION II.

ANIMAL KINGDOM.

367 ¶ THE world may be considered as one large mansion, where the animal kingdom is permitted to enjoy the works of nature, and to admire the hand which called it into life. Man, who is named, from his capacity of turning and looking upwards, is the capstone of this vast kingdom, and he feels himself the

lord of earth's domain; being blessed with talents and endowed with sense, he contemplates the superiority of his station, but he is apt to forget from whom it is derived. Amidst the many advantages which the mind enjoys from tracing nature through her varying course, that of finding it raised with admiration to the power which formed it, is one of the most beneficial that can be produced; for it is impossible to behold its nice dependencies without observing an *almighty hand*. Our beneficent Creator has placed us here, and surrounded us with comforts and pleasures for our enjoyment. He has spread out the heavens over our heads, and set the orb of day to warm and cheer us while we wake, and the diamond stars to be admired while all nature is at rest. For us the forest blooms; for us the ocean teems with living beings; for us, the heavens are melodious with flying songsters; for us, the earth abounds with moving life, and brings forth fruits and soothing balms, to heal our maladies, satisfy our wants, please our tastes, and gratify our desires. In taking a view of animated nature, and beholding the connexion which exist in every part, we see it is governed by immutable laws tempered with wisdom and benevolence; to the violation of which there is affixed a sure penalty—as certain as to that of the physical and organic, as to the *moral and written*. In taking a general survey of nature, the mind expands at the important sight; and if method is not strictly observed, we might lie down in hopeless uncertainty, and declare that which required such immensity of labor to search out, must absolutely be inscrutable: but with the active and investigating mind difficulties are calculated to create exertion; and it begins its task by *numbering, grouping,*

and *classing* all the various kinds of beings that fall within its notice. Thus the naturalist begins his investigations by classifying and by this process it is discovered, that the higher order of beings may be classed off, or arranged under *five* distinct heads, or races of men, and the lower order of animals under *fourteen*. Of quadrupeds, the number is supposed to amount to about *two hundred*. In surveying the animal nature, and beholding the connexion which exists in every part, we cannot but observe the exact resemblance which subsists between the *human* and *animal race*. If Providence has bestowed upon *us* the gift of *intellect*, they are endowed with *sagacity* or *strength*, and so great is the similarity in the formation of our bodies that we might be termed animals erected on the hinder legs. The animals are somewhat differently arranged from the vegetables, because they have different destinations—have different habits, and have the power of moving from place to place, called the faculty of loco-motion. When the all-wise Creator determined on making these moving beings, he contrived for them a different organization from that of beings which were fixed. As moveable beings could not have their roots in the ground, he provided them with the cavity of the stomach, in which they were to carry about what should be equivalent to the soil for plants; and the suckers of their nutriment centering in that cavity, were destined to act like the roots of plants in the soil. They suck up the chyle, the nutritious portion of the food, carry and deposit it over the different tissues of the animal frame. As animals were intended to move about, the perfect are endowed with *five* senses. They were provided with *eyes* to see objects which might endanger

their existence and procure the necessaries of life; with *ears* to hear, that they might catch the sound of warning, and obtain assistance in time of danger; with *feeling*, to secure their identities and excite them to action; with *tasting*, to discriminate the food which is proper for nutrition; with *smelling*, to avoid poisons, and select wholesome aliment. From these *five* senses flow all our sensitive perceptions, the result of experience, and all the various habits, qualities, passions, and powers of animals. The organs of sense, and the powers of volition, proceed from the *head* and *brain*, the focus of sensation; and by the *nerves*, which are dispensed in various branches through all parts of the body; impressions are received by the brain from the adjacent organs of sense, and it exercises its commands over the muscles and limbs; and thus the system is urged forward to obey its mandates.

368 ¶ The elements which enter into the composition of the bodies of animals are solid, liquid, gaseous, and inconfineable. The *solid elements* are phosphorus, sulphur, carbon, iron, manganese, potash, lime, soda, magnesia, silicia, and alumina. The *liquid elements* are muriatic acid and water, which in this case may be considered as an element, enter into the organization, and constitute three-fourths of the bodies of animals. The *gaseous elements* are oxygen, hydrogen, and nitrogen. The *inconfineable elements* caloric, light, electric, and magnetic fluids. These diverse elements, united with each other according to laws still unexplained, form what we name the *proximate* principles of animals. These materials or principles above mentioned, combine among themselves, and from their combination

arise the organic elements, which are solid or liquid. These constitute fibres, which are again woven into tissues which compose the structure of the organs. These different organs, associated with each other, and with the fluids, compose the instrument of life. To this human instrument of life belong these internal and external senses, voluntary and involuntary action, voice, speech, watching, and sleep. Besides the *twenty-nine* proper metals, *ten* metallic earths, and *three* alkalies, we behold *sixteen* distinct agents existing in the animal kingdom, which are regarded as simple elementary principles, viz—*heat, light, electricity, galvanism, oxygen, nitrogen, hydrogen, carbon, sulphur, phosphorus, boron, silenium, chlorine, iodine, bromine, and fluorine.* These elementary principles are often compounded with each other, with acids and oxides, forming a large and important class of medical agents. Thus, the compounds of which oxygen forms a part, are called *acids* or *oxides*, according as they do or do not possess acidity. An oxide of iron or copper signifies a combination of those metals with oxygen, which has no acid properties.

HEAT OR CALORIC.

369 ¶ The term *heat* in common language, means the sensation experienced on touching a hot body. It is also used to express the cause or agent, by which all its effects are produced. It is then called *caloric*. *Heat* and *cold* are perceptions, of which we acquire the ideas from our senses; they indicate only a certain state in which we find ourselves independent of any exterior object. But as these sensations are for the most part produced by bodies around us, we call those bodies *hot*,

which produce in us the sensation of *heat*, and those *cold*, which communicate the contrary sensation. Caloric or heat is considered as a real and distinct substance, or subtile fluid, universally pervading nature, penetrating the particles or pores of all bodies with more or less facility, and in different quantities. It is imponderable; the particles repel each other, and they are attracted by all other substances, which are more or less expanded by them. All bodies on earth are constantly tending to attain an equilibrium of temperature, though some substances oppose very much its rapid passage, while others, again transmit or suffer it to escape much more rapidly. Heat is excited or generated by collision, friction, combustion, chemical action, electricity, animal life, and much more abundantly, from the *solar* rays. The effects of heat are numerous. The vital actions of the animal system are powerfully excited by it. Without this agent there would be no life. Over the vegetable world its influence is obvious to every eye. By its stimulating, co-operating with air and moisture; the seed bursts its envelopment, and yields a new plant: the buds open, the leaves expand, and the fruit arrives at maturity. The dimensions and form of every kind of matter are regulated by this principle. By its increase, solids are converted into liquids, and liquids are dissipated in vapor; by its decrease, vapors are condensed into liquids, and those become solid. Water freezes whenever the heat is at 32 deg. and boils at 212 deg. The heat of the blood in the chest is generally about 104 deg., and at the extremities somewhat less. An iron rod, when heated to a red heat, increases in length 120th part. Heat exerts a powerful influence over

chemical action; bodies previously separate, are made to combine, and the elements of compounds are disunited. An undue proportion of it is destructive to all organic, and many mineral compounds, and it is essentially concerned in combustion, a process so necessary to the wants and comforts of life; and, in fact, if it were not for this agent, the gasses and liquids would become permanently solid, and all motion on the surface of the earth would be arrested.

LIGHT.

370 ¶ *Light* is generally regarded as a substance consisting of vast numbers of exceedingly small particles, which are actually projected from luminous bodies, and falling upon the retina of the eye, producing the sensation of vision; and in the same way every pulsation of air impresses the nerves of hearing, and produce the perception of sound. It emanates from the sun, fixed stars, and other luminous bodies, and passes off in straight lines from every part of a luminous body, probably never to return again to the body from which it was emitted. It is equally distributed on all sides, if not intercepted, diverging like radii, drawn from the centre to the circumference of a circle. The passage of light is progressive, time being required for its motion from one place to another. By astronomical observation it is found that, light travels at the rate of nearly 195,000 miles in a second of time, and it would require about eight minutes to pass from the sun to the earth. Light is universally expanded through space. When it proceeds from a common point, and continually separates as it proceeds, it is called a diverging ray; when it

tends to a point, it is called a converging ray. The *radiant point* is the point from which diverging rays proceed, and the *focus* is the point to which the converging rays are directed. Light traverses the same transparent medium, such as air, water, or glass; and when it falls upon any body it may, like radiant heat, dispose of itself in three different ways, being *reflected*, *refracted*, or *absorbed*. When light is analyzed or decomposed, it is found to be a mixture of *seven calorific* rays, viz:—red, orange, yellow, green, blue, indigo and violet, which are called the primary or simple colors. As black substances absorb all the light that falls upon them, and those of white reflect it unchanged, they are not called colors. Light exerts a powerful control over animal, vegetable, and other substances. Animals, in general, droop when deprived of light; they become unhealthy, and even sometimes die. Nearly all animals which are hid from the light, and appear only in the night, are of a white complexion. Thus worms, grubs, caterpillars which live in the earth or wood, are of a whitish color. The belly of fowls, fishes, &c., are generally pale or white, while the parts exposed to light, are colored or tipped with black. The vegetable kingdom also is much influenced by light. Plants turn their leaves and grow towards the light; and their color, taste and odor, are much influenced by light; and the maturity of fruits and seeds, owe it to the light which they receive. Certain metallic oxides become combustible when exposed to light and acids; as, the nitric, &c., are decomposed by its contact, and various other substances change their nature. How wonderful, then, is the power of light, and how eager we should be to gather light, medical, moral, physical, and divine.

ELECTRICITY.

371 ¶ THE nature of electricity, like that of heat, and light is at present involved in some obscurity. All these principles or agents are so light, subtile, and diffusive, that it has hitherto been found impossible to recognize in them the ordinary characteristics of matter. But the effects of electricity are so similar to those of a mechanical agent, it appears so distinctly to emanate from substances which contain it in excess, and rend asunder all obstacles in its course so exactly like a body in rapid motion, that the impression of its existence, as a distinct material substance, *sui generis*, forces itself irresistably on the mind. All bodies in nature are regarded as containing the electric fluid, and when its equilibrium is disturbed they exhibit the phenomena of electricity. Some bodies suffer electricity to pass through their substances and are called *conductors*; others only receive it upon the spot touched, and are called *non conductors*. The former do not in general become electrified by friction, and are called *non electrics*; the latter, on the contrary, are electrics, or acquire electricity by friction. When you wish to collect electricity it may be done by rubbing a stick of sealing wax on a glass tube, covered with sealing wax, with silk, or woollen cloth, or it may be largely developed by the electric machine. When it is received in or upon a body which is a conductor, and then surrounded by materials which are non conductors, it will be accumulated in large quantities; but it possesses such a great power to restore itself to an equilibrium that, in some

instances it will shoot off in sparks, as we see it pass from one cloud to another in the form of lightning. Any air, glass, sulphur, wax, resins, are *non conductors*. All metals are conductors. Water, damp wood, spirits of wine, damp air, and some oils are imperfect conductors. Whenever one part of a body, or system of bodies, is positive, another part is invariably negative, and these opposite electrical states are always such as exactly to neutralize each other. When bodies are similarly electrified they repel each other. When the electric fluid, in order to restore its equilibrium, violently passes through the animal system, it wonderfully contracts the muscles, and, if the spark be large, it instantly puts an end to the functions of life. If however, electricity be applied in small sparks, it considerably augments the circulation of the blood, and excites the action of the absorbents, relieves pain, restores palsies, and proves useful in many departments of medical and physical sciences.

GALVANISM.

372 ¶ *Galvanism* and common *electricity* are due to the same force, excited by different conditions, operating, in general, in a different manner and under different circumstances. Electricity exerts a high intensity in its attractive and repulsive energies; while the electric agent in galvanism is more intimately associated with other substances, is developed in large quantities, but never attains a high tension, and produces its peculiar effects while flowing along conductors in a continuous current. When plates of zinc and plates of copper are placed in a vessel of water and sulphuric acid, and the

two metals are made to touch each other, either directly, or by the intervention of a metallic wire, galvanism is excited. If one hand be put to the plate of copper at the end of the trough, and another be put to the plate of zinc at the other end, a smart shock will be felt and will be continued for a great length of time. By an addition of these plates, a galvanic battery can be formed so strong that platina, gold, diamond, and the hardest stones, can be made to melt like wax, and evaporate like water, before it. It is evident therefore, that this agent may be of great use in resuscitating the dormant irritability of the nervous system and muscular fibre, and spring into lively action, sluggish and debilitated functions and organs of the animal system.

OXYGEN.

373 ¶ *Oxygen gas* is an elastic invisible fluid, like common air, capable of indefinite expansion and compression. It is an element or simple substance, being nearly 740 times lighter than the same bulk of water. It exists only in a state of combination, and is indispensable to combustion and respiration, and is the cause of acidity. It also exists universally diffused through nature, and is a constituent part of the atmospheric air, which is composed of 27 parts of oxygen and 73 of nitrogen, and also of water, which is composed of 89 parts of oxygen and 11 parts of hydrogen, and is considered as the oxydizing and acidifying principle. All bodies of the animal and vegetable kingdoms contain more or less a portion of oxygen. This substance is a *non conductor* of electricity, existing sometimes in a solid, at other times in an aeriform state, though never

distinctly perceptible to the human senses. Oxygen will not burn, but supports combustion. A mixture of oxygen and hydrogen gasses burn with a small flame, but this gives a most intense heat. These gasses are employed with the oxyhydrogen blow pipe. If an electric spark be passed through a proper mixture of oxygen and hydrogen gasses, water will be produced. Oxygen unites with metals and other substances, in various proportions, forming *oxides*.

NITROGEN.

374 ¶ *Nitrogen* is another important elementary or undecomposable principle. Nitrogen, or azote, is a colorless gas which is devoid of smell or taste. It constitutes four-fifths of the volume of atmospheric air, or 73 parts nitrogen, and 27 oxygen, is not a supporter of combustion, and may be obtained from animal matters. It possesses all the physical properties of air, extinguishing flame and animal life. It is nearly of the same specific gravity of oxygen, with which it combines in *four* proportions, forming four important compounds.

HYDROGEN.

375 ¶ *Hydrogen*, as its name expresses, is one of the constituent elements of water, from which it can be alone procured. It is a colorless gas; when pure, has neither odor nor taste, and is a powerful refractor of light; is inflammable in an eminent degree, though like other combustibles, it requires the aid of a supporter of combustion. It is the lightest body in nature, being sixteen times lighter than oxygen, and is the great agent

used in filling balloons. It is not perceptible to our senses in a separate state, nor is it fitted for respiration; animals when obliged to breathe in it die almost instantaneously. When hydrogen is combined with oxygen gas, water is formed: with nitrogen, it forms ammonia.

C A R B O N .

376 ¶ *Carbon* is the base of almost all vegetable and animal substances. *Charcoal* is impure carbon, and the *diamond* is pure carbon, except a small particle of oxygen, with which it has been found to be combined. When combined with oxygen, it forms carbonic oxyde, and carbonic gas; carbon is also capable of combining with sulphur, hydrogen, and all the common simple combustibles, forming a series of most important compounds. With iron it forms steel; it possesses the property of destroying smell, color, and taste of various substances, and correcting the fetor of foul ulcers, and arrest putridity. Carbonic acid gas is the choke-damp of mines, wells, &c.

S U L P H U R .

377 ¶ *Sulphur* occurs as a mineral production in some parts of the earth, particularly in the neighborhood of volcanoes; and is associated with metals and earths; is combustible; of a brittle solid; of a greenish yellow color; emits a peculiar odor when rubbed, and has little taste. Sulphur is insoluble in water, but in small quantity in alcohol and ether, and more largely in oil: it combines with oxygen in four definite proportions, constituting an interesting series of acids: it also combines

with hydrogen, the alkalies, the earths, and metals: these combinations are called *sulphurets*.

PHOSPHORUS.

378 ¶ *Phosphorus* is a simple substance, found in a state of combination with the bones of animals, from whence it is extracted. Pure phosphorus is transparent, almost colorless, and very soft. It has never been found pure in nature. It is always met with, united to oxygen, or in the state of phosphoric acid; in that state it exists very plentifully, and is united to different animal, vegetable, and mineral substances: it is exceedingly inflammable. Its tendency to combustion, or to unite with oxygen, is so great that it always burns in the open air, and bursts into a flame, at a degree of heat a little above that of the human body. It unites with oxygen the acidifying principle forming acids. It also combines with earths, alkalies, and metallic oxydes, forming *phosphates*.

BORON.

379 ¶ *Boron* is solid, tasteless, inodorous, and of a greenish brown color, insoluble in water, alcohol, ether, and oils. It is generally obtained from boracic acid, which has been disengaged from the waters of several lakes, and is occasionally found in combination with ammonia. It is exceedingly fusible, and communicates this property to the substance with which it unites. For this reason borax is often used as a flux. It unites with oxygen, forming acids, and combining with other substances, forming *borates*.

SILENIUM.

380 ¶ *Selenium* at common temperature is a brittle opaque solid body, without taste or odor, of a deep red color when reduced to powder, and insoluble in water. This elementary body was discovered by BENZELIUS, and has been obtained in a very small quantity. It is found in combination with some of the varieties of iron pyrites. It unites with the acidifying principle, oxygen in three grades, forming *acids*. It also unites with alkalis, forming *salts*.

CHLORINE.

381 ¶ *Chlorine* is a yellowish green colored gas, which has an astringent taste, and a disagreeable odor. It is one of the most suffocating of the gasses, exciting spasms and great irritation of the glottis, even when considerably diluted with air. It, like the above substances, has resisted the most powerful means of decomposition which ingenuity could invent; hence, it is considered as an elementary body. It is generally obtained from manganese, and one of its most important properties is, its bleaching power. All animal and vegetable colors are speedily removed by chlorine, and when the color is once destroyed it can never be restored. It unites with oxygen, forming *acids*, and has a strong affinity for hydrogen. It combines with other substances, forming *chlorides* or *chlorurets*.

IODINE.

382 ¶ *Iodine* is a peculiar undecomposable principle of a violent color; at common temperature is a soft, friable, opaque solid, of a metallic lustre. It is very sparingly soluble in water, but alcohol and ether dissolve it freely. Iodine possesses an extensive range of affinity. It combines readily with metallic oxides, and metals producing compounds, which are termed *iodides* or *iodurets*. When it unites with the acidifying principle, it forms *acids*. It acts energetically on the animal system as a deobstruent, and when largely given, as an irritant poison. Iodine was first discovered by a manufacturer of salt petre, and is now generally obtained from sea-weeds, though some mineral springs are very strongly impregnated with it.

BROMINE.

383 ¶ *Bromine* in its chemical relations bears a close analogy to chlorine and iodine, being intimately associated with them, and is mostly obtained from seawater and marine plants. At common temperature, bromine is a liquid, the color of which is a blackish red; its odor disagreeable, and its taste powerful; its volatility is considerable; is soluble in water, alcohol, and ether; the latter being the best solvent. It acts with energy on organic matters, such as wood, and corks, and corrodes the animal texture: but, if applied to the skin for a short time only, it communicates a yellow stain, which is less intense than that produced by iodine, and

soon disappears. To animal life it is highly destructive: one drop placed on the beak of a bird, proves fatal. Bromine unites with oxygen, the acidifying principle, forming acids, and with metallic oxides, forming *bromates*, which are very analagous to the chlorates and iodates.

FLUORINE.

384 ¶ The substance to which this name is applied, has not hitherto been obtained in an insulated form, and therefore, the properties which are peculiar to it in that state, are entirely unknown. From the nature of its compounds it appears to possess a powerful affinity for hydrogen, oxygen, and metallic substances. The hydrofluoric acid, in which fluorine largely exists, is prepared by acting on the mineral called *fluor spar*, which is a fluoride of calcium. It is a colorless fluid, and acts energetically on glass, destroying, instantly, its transparency. Of all known substances it is the most destructive to animal matter. When a drop of the concentrated acid, of the size of a pin's head, comes in contact with the skin, instantaneous disorganization ensues, and deep ulceration of a malignant character is produced.

I have now passed through a condensed description of the simple, elementary, or undecomposable principles, which compose the basis of the material universe. The huge masses of matter which we behold, are composed of these few fundamental principles, compounded in every possible variety, constituting the world of matter, like the twenty-six letters of the English alphabet, which are so arranged as to form syllables, words, and sentences, and which are so compounded as to make a

world of books. I shall now proceed to speak of a few compound bodies which constitute so prominent a place in the material universe, that it might be thought inattention to pass over them in silence.

W A T E R .

385 ¶ *Water* is transparent, without color, smell, or taste, in a very slight degree compressible, when pure, not liable to spontaneous change, liquid in the common temperature of our atmosphere, assuming the solid at the freezing point, 32° *Fahrenheit*, and the gaseous state at the boiling point 212° , but returning unaltered to its liquid state, on resuming any degree of heat between these points. Water is composed of 11 parts of hydrogen, and 89 of oxygen, or more correctly 11.1 to 88.9: it is capable of dissolving a greater number of natural bodies than any other fluid whatever, and especially those known by the name of saline, performing the most important functions in the vegetable and animal kingdoms, and entering largely into their composition as a constituent part: native water is seldom, if ever, found perfectly pure. The waters that flow within or upon the surface of the earth, contain various earthy, saline, metallic, vegetable, or animal particles, according to the substances over or through which they pass. The distilled water thus obtained, and preserved in clear well stopped bottles, is absolutely pure, and is lighter than that which is impure.

ATMOSPHERIC AIR.

386 ¶ The earth is everywhere surrounded by a mass of gaseous matter called the atmosphere, which is preserved at its surface, by the force of gravity, and revolves together with it around the sun: it is colorless and invisible, excites neither taste nor smell when pure; and is not sensible to the touch, unless when it is in motion. It possesses the physical properties of elastic fluids, in a high degree. Its specific gravity is *unity*, being the standard with which the density of all gaseous substances is composed. It is 815 times lighter than water. Its pressure, at the level of the sea, is equal to a weight of about 15 pounds on every square inch of surface, and is capable of supporting a column of water 34 feet high, and one of mercury of 30 inches. By the use of the barometer, it was discovered that the atmospheric pressure is variable. It varies according to the elevation above the level of the sea, and on this principle the height of mountains is estimated. The atmospheric air is highly compressible and elastic; so that its particles admit of being approximated, to a very great extent, of compression, and exposed to an extreme degree of rarity, when the tendency of its particles to separate, is not restrained by external force. The extreme compressibility and elasticity of the air, accounts for the facility with which it is set in motion, and the velocity with which it is capable of moving. It is subject to the laws which characterize elastic fluids in general. It presses, therefore, equally on every side, and when some parts of it become lighter than the sur-

rounding portions, the denser particles rush rapidly into their place, and force the more rarified ones to ascend. A stream or current of air is called *wind*, and an undulating vibration excites the sensation of *sound*. It is not accurately known to what height the atmosphere extends. From calculations founded on the phenomena of refraction, its height is supposed to be about 45 miles. The temperature of the atmosphere varies with its elevation—it is not heated by transmitting the rays of the sun, but receives its heat solely from the earth, and chiefly by actual contact, so that its temperature becomes progressively lower, as the distance from the general mass of the earth increases. The air of the atmosphere is so transparent as to be invisible, except by the blue color it reflects, when in very large masses, as is seen in the sky or region above us, on viewing extensive landscapes. It is capable of holding bodies in solution, and the mere heating or cooling of it does not effect its chemical properties. The atmospheric air is composed of 27 parts of oxygen, and 73 of nitrogen. Such is the constitution of pure atmospheric air. But the atmosphere is never absolutely pure, for it always contains a certain variable quantity of carbonic acid, and watery vapor, besides the odoriferous matters of flowers and other volatile substances which are also frequently present. I have thus hastily travelled over some of the component principles which compose the animal kingdom. They are variously compounded with each other, and with many other agents, both from the vegetable and animal kingdoms, forming an extensive and valuable class of remedial agents.

AFFINITY.

387 ¶ My sole object is to communicate information, so far as I may be able to exhaust nothing, but to touch upon many things: to give a desire for learning, rather than to consummate the learning that may be desirable. To condense, arrange, and bring within the narrow limits of the student's mind, all the fundamental facts and principles involved in the science of medicine; to run over the volume of nature, (not in its separate pages,) but in its table of contents; so that we may be at home upon the various subjects pertaining to medicine; and know for ourselves, and not blaze forth in a foppery of knowledge, far more contemptible than the grossest ignorance. Let us then prosecute our respective duties with ardor. The path of science is open to every variety of age, and almost to every variety of education. Thousands, at this moment behind, are pressing forward, and if they had had suitable books, freed from lumber, technical phrases, and abstruse sentences, would, ere this time, have outstripped our feeble intellects, and stood in the path of usefulness.

The four words, *atom*, *inertia*, *repulsion*, *attraction*, point to four general truths, which explain the greater part of the phenomena of nature; being so general they are called *physical* truths, from the Greek word signifying *nature*—an appellation distinguishing them from chemical truths, which regard particular substances, and from vital truths, have relation only to living bodies. By fixing the attention then, on these *four fundamental truths*, the student obtains, as it were, so

many keys to unlock, and lights to illuminate the secrets and treasures of nature.

1st. *Atom* means an exceedingly minute resisting particle. The visible universe is built of such particles, held together in masses, by the principle of attraction.

2nd. *Inertia* expresses the fact that, the atoms, in regard to motion, have about them, what may be figuratively called a *stubbornness*, tending always to keep them in their existing state, whatever it may be; in other words, that bodies neither acquire motion, nor lose motion, nor bend their course in motion, but in exact proportion to some force applied.

3rd. *Repulsion* means that, under certain known circumstances, as of heat diffused among the particles, their mutual *attraction* is countervailed or resisted; and they tend to separate, with force proportioned to their proximity, as when heated water bursts into steam.

4th. *Attraction*, which word implies that atoms, whether separate or already joined into masses, tend toward all other atoms or masses, and with force proportioned to their proximity. This *affinity* is the golden chain which binds together the countless millions of bodies, or is the grand tie which links the particles of matter into the varied forms of solidity. "The visible universe is built up of very minute indestructible atoms called matter, which, by mutual attraction, cohere or cling together in masses of various form and magnitude. The atoms are more or less approximated according to the quantity or repulsion of heat among them, and hence arise the three remarkable forms in the masses of solid, liquid and gaseous, which mutually change into each other with change in the quantity of heat. Certain modifications of attraction and repulsion produce the

subordinate peculiarities of crystal, dense, hard, elastic, brittle, maleable, ductile, and tenacious." *Attraction* is mutual : it extends to indefinite distances ; all bodies whatever, as well as their component elementary particles are endued with it. It is not annihilated, at how great a distance soever we suppose them to be placed from each other ; neither does it disappear, though they be arranged ever so near each other. *Attraction* has received different names, as it is found acting under different circumstances. The chief distinctions are *gravitation, cohesion, capillary, chemical, electrical, and magnetical* attractions.

1st. *Gravitation* is the name given to the attraction when acting at sensible distances. It takes place between the most minute and constituent particles of bodies ; it is proportional to their masses, and is inversely as the squares of the distances. It is transmitted instantaneously from one body to another, and acts equally on bodies in a state of rest, and upon those which, moving within its range, seem to be flying off from its power. It is this universal law which binds the pebble to the earth, and the planet to the sun, which connects stars with stars, and operates through infinity of space.

2nd. *Cohesion*, or, as it is called, *aggregation*, is the name given when it is acting at very short distances, as in keeping the atoms of a mass together. It is that kind of attraction which bind the integrant parts into one united mass or aggregate. It exists between a solid and liquid, and between the particles of a liquid, among themselves, and is the attraction of *homogeneous* bodies towards each other. It is by the same means that the greater number of rocks seem to be produced,

that enter into the substances of the earth's solid crust. Whence, also, earths unite to earths, in consequence of mutual approximation.

3rd. *Capillary* attraction, acts between a liquid, and the interior of a solid which is tubular, or porous. It exists between substances that are unlike in their nature, or, *heterogeneous* masses. It is the common attractive property of material substance for material substance; the liquid, or that whose particles are easily separable, pressing towards the solid, whose parts are, by any action of their own, altogether inseparable. Hence, the sap is raised from the roots, the fluid in a sponge, and the wick of a lamp lifts the oil to supply the flame.

4th. *Chemical* affinity, or attraction, is the basis on which the science of chemistry is founded. It is, as it were, the instrument which the chemist employs in all his operations, and hence it forms the first and leading object of his study. It is exerted between the minutest particles of different kinds of matter, causing them to combine so as to form new bodies, endowed with new properties. It acts only at insensible distances, in other words, apparent contact, or the closest proximity; and every thing which prevents such contiguity is an obstacle to combination; and any force which increases the distance between particles already combined, tends to separate them permanently from each other. In the former case, they do not come within the sphere of their mutual attraction, in the latter, they are removed out of it. It follows, therefore, that though affinity is regarded as a specific power, distinct from the other forces which acts on matter, its action may be promoted, modified, or counteracted, by

them. When a substance manifests, as it were, a choice for one or two others, uniting with it by preference, to the exclusion of the other, it is called *single elective affinity*. When two combinations, and two decompositions take place, being an instance of what is called *double elective affinity*. The most simple instance of the exercise of chemical attraction, is afforded by the admixture of two substances, and when they appear to have destroyed the properties of each other, it is said they have *neutralized* one another. The other phenomena that accompany chemical attraction, are changes of density, temperature, form, and color. There are fifty-eight substances in nature, which appear in the present state of science, distinct from each other, and are, therefore, called *kinds of matter*; and it is found that the constituent atoms of what we call different substances, will not cohere, and unite, indifferently, to form masses, as atoms of the same kind do: and it is a remarkable truth, that when different substances combine, the proportions of the ingredients are always uniform, and such as to lead to the conclusion, that for every atom present of one substance, there is exactly one, two, or three, &c., of the other. Therefore, if there be ten atoms of one substance, there are exactly ten, or twenty, &c., of the other, but never an intermediate number, as 13, or 23, to 10; for then a particle of the compound would consist of one atom of the first, and of one and three-tenths, or two and three-tenths, &c., of the second substance, which is absurd, as the atom is indivisible. Tables have been formed, exhibiting the relative weights of the atoms of different substances, and the number standing opposite to each substance is called its *chemical equivalent*, that is to

say, the weight of its atom, in relation to the weight of the atom of some other substance chosen as a standard. The *equivalent* of a compound substance depends, of course, both on the equivalents of its ingredients, and on the number of atoms existing in one integrant particle of the compound. Some substances, however, combine in almost every proportion, as water and alcohol.

Electric attractions take place between bodies in opposite states of electricity; but bodies electrified with the same electricity repel each other. The parties attract those of an opposite fluid, in the inverse ratio of the square of the distance: thus. if two bodies positively, and the other negatively electrified, are brought towards each other, they approach, because the positive atmosphere of the first is attracted by the negative atmosphere of the second. It is supposed by some, that the earth turns upon its axis by the power of electricity—one half being in an electric, and the other in a non-electric state at the same time. The centre of the earth's surface is supposed to be a non-conductor, so that only one-half is electrified at a time, as it turns towards the sun.

Magnetic attraction. Among different kinds of iron ore that are found in a natural state there is one, in particular, which possesses the surprising property of attracting iron by an invisible force. These are what we call *natural magnets*. We can communicate this property to iron and steel, and thus produce *artificial magnets*. Magnetic force is exerted not only in the case of a contact, but also at a distance. A common magnet will raise filings without touching them. This force decreases with the distance. If we

place a magnet or needle of magnetized steel upon a pivot, and fitted to move freely in a horizontal direction, it always takes such a position, that one of its poles is directed towards the *north*, and the other towards the *south*. Polarity seems to be simply the effect of the magnetic attraction of the globe; but there is a mutual connexion between the attractive power of the magnet and its polarity. *Animal Magnetism* is the name which has been applied to certain singular phenomena which takes place in the human body, but which has no connection with the natural magnetism we have been considering.

SECTION III.

VEGETABLE KINGDOM.

388 ¶ THIS is one of the *three* great divisions of nature. Stones grow, vegetables grow, and live, and animals grow, live and feel. The most obvious difference between vegetables, minerals, and animals, that the latter are, in general, capable of conveying themselves from place to place, whereas, vegetables being fixed in the same place, absorb, by means of their roots and leaves, such support as is within their reach. The nutrition or support of plants appears to require water, earth, light, and air. There are various experiments which have been instituted to show, that water is the only aliment which the root draws from the earth. The leaves, also of plants have likewise the property of

absorbing water, and of extracting from the atmosphere the same principle which the root draws from the earth. The manure which is mixed with earth and decomposed, not only affords the alimentary principles we have spoken of, but likewise favors the growth of the plant by that constant and steady heat, which its ulterior decomposition produces. Vegetables cannot live without air. From experiments, it is ascertained that plants absorb nitrogen, or the azotic part of the atmosphere; and this principle appears to be the cause of the fertility which arises from the use of putrefying matters, in the form of manure. The carbonic acid is likewise absorbed by vegetables, when its quantity is small. Light is almost absolutely necessary to plants. In the dark, they grow pale, languish and die. The tendency of plants towards the light is remarkably seen in such vegetation as is affected in a chamber or place where the light is admitted on one side, for the plant never fails to grow in that direction. Whether the matter of light be condensed into the substance of plants, or whether it acts as a stimulus or agent, without which the other requisite chemical processes cannot be affected, is uncertain. It is ascertained that the processes in plants serve like those in animals, to produce a more equable temperature, which is, for the most part above that of the atmosphere. The principles of which vegetables are composed, if we pursue their analysis as far as our means have hitherto allowed, are chiefly carbon, hydrogen and oxygen. Potash, soda, lime, and magnesia are occasionally met with, in small quantities in vegetables.

The following are the principal products of vegetation: sugar, gum, starch, indigo, gluten, albumin,

fibrin, gelatin, bitter principle, extractive, tanin, fixed oils, wax, camphor, resin, balsams, Indian rubber, gum-resins, cotton, acids, and wood. To the preceding list might be added many more of minor importance. These principles are variously combined in plants; sometimes, however, one principle predominates, and sometimes another. The mechanism of plants is most wonderful. Their existence may be regarded as similar to that of an animal in a state of sleep, during which time, their functions proceed without consciousness. A seed which is thrown into the earth by the husbandman, is similar in its construction to the egg of an animal. The earth acts upon it by means as inexplicable to man, as that by which the sitting of a hen on an egg, converts it into a chicken. In a few days the two ends of the seed open, and from one of them issues a green plant, and from the other a number of fibrous threads. Whatever was the position of the seed, the green sprouts struggle through the soil upwards, into the air, and the fibrous shoots strike downwards into the ground, and there imbibe, transmit, or pump up the moisture as nourishment to the plant. Nothing is more wonderful than the means of nature for the preservation of seed, and the contrivances by which they are distributed. Some seeds are provided with downy wings; others are swallowed by animals, and voided again in distant places; and all are blown about by the winds, and preserved by their coverings, till excited into germination by the heat of the sun's rays, in the following spring. Each has its peculiar habitation, and each adapts the nutriment derived from the same earth, so differently, that by an unknown agency produces all the degrees of flavor, odor, poison, and nutriment, which

we find in various plants. The sexual system of plants was invented by the immortal Linnæus, the great botanist of Sweden. It is founded on the parts of fructification, viz:—the *stamens* and *pistils*.

The first general division of the whole body of vegetables in the sexual system is divided into *classes*; these, again, are divided into *orders*; the orders into *genera*; the genera into *species*; and the species into *varieties*, where they are worthy of note. There are commonly reckoned 24 *classes*, 121 *orders*, 2000 *genera*, 30,000 *species* and *varieties* of the species without number. Every plant consists of a root a trunk, or stem, of buds, of leaves, of props, or arms, of the inflorescence, and of the parts of fructification. In regard to their bulk, plants are divided into *trees*, *shrubs*, and *herbs*, which last die in the winter. According to their respective duration, they are *annual*, lasting one year, and reproduced from their seed, or *biennial*, when they are produced in one year, and flower the next; *perennial*, when they last many years. They are said to be *indigenous*, when native; and *exotic*, when foreign. Plants, in regard to the *roots*, are *bulbous*, as in onions; *tuberous*, as in turnips; *fibrous*, as in grapes. They are *deciduous*, when their leaves fall in autumn, or *evergreen*, when they are constantly renewed.

The following is a short outline of the sexual system. The *classes*, *orders*, and *genera* are distinguished by the organs of fructification. The elementary organs of fructification are:

1st. *Calyx* or *cup*. The outer or lower part or covering of the flower, called also the empalement or flower cup.

2nd. *Carolla*. The colored blossom, within or above the calyx. The gaudy part of the flower, vulgarly called the leaves of the flower.

3rd. *Stamens*, or threads. The male genital organ of the plants. The organ immediately surrounding or adjoining the central one, consisting of glutinous knobs, supported on filaments. They are various in number in different flowers, from one to some hundreds.

4th. *Pistil*. The female part, or central organ of the flower, whose base becomes the pericarp and seed.

5th. *Pericarp*. The seed vessel, or covering of the seed, whether pod, shell, bag or pulpy substance.

6th. *Seed*. The essential part which contains the rudiments of a new plant.

6th. *Receptacle*. The base which sustains the other six parts, being at the end of the flower stem.

The *four* first are properly parts of the flower, and the last *three* parts of the fruit. It is from the number, proportion, position, and other circumstances attending these parts of the fructification, that the *classes*, *orders*, and *genera*, which they contain are to be characterized according to the sexual system. Such flowers as want the stamens, and have the pistil, are termed *female*. Those flowers which want the stamen and have the pistil, are called *male*. Flowers which have both stamens and pistils, are said to be *hermaphrodite*.

The fruits which afford us so many luxuries, are in fact nothing more than the covering or natural means for protecting the seed of plants, and as above stated, called by botanists, *pericarps*. Some pericarps are *pulpy*, as those of apples; some are *hard*, as nuts; and some scaly, as the cones of fir-trees. The natural substances found in all vegetables, are of great use to man

for food and medicine. Some of the natural substances exude spontaneously; others are obtained by mechanical and chemical processes. *Gum* or mucilage oozes from many trees. *Resin*, like gum, exudes from firs and other trees, and are known as balsams, varnishes, turpentine, tar, pitch, &c. Indian rubber, caoutchouc, is a gum that exudes from a certain tree in South America. *Sugar*, in sugar-cane, is obtained by boiling. *Jelly*, procured from many fruits; *Turpentine* and *tar* from pine; *bitters* from hops, quassia, &c.; narcotic principle from the milk of poppies, lettuce, &c. The vegetables of the greatest value to man, are those which produce *glutin* or *starch*, as wheat, potatoes, beans, and the like. *Oils* are produced by pressing the seeds or kernels of vegetables, as olives, linseed, and the like; *volatile oils*, and *spirits* are obtained by the process of distillation. *Wax* is collected from all flowers by bees. *Potash* is obtained from the ashes of burnt vegetables. *Extracts* are made by drying down in the sun, or boiling down vegetable juices. *Acids* are formed when any combustible substance absorbs more oxygen from the air than suffices to form water. *Wood*, burnt in a close vessel till it has neither smell nor taste, will produce the basis of all vegetable matter, called *charcoal*, or when purified, called *carbon*, which is the most indestructible substance in nature. The *diamond* approaches the nearest to pure carbon of any substance at present known.

The roots, stems, and leaves, of herbs, while all parts are growing are good for medicine. "Of the animal plants, the roots and stems become useless, as the seed ripen, and the leaves, as they lose their plumpness, and change their color. Therefore, during the

growing season, use all parts of the plant, if scarce, and the most perfectly developed, if plenty. Of *annuals* that are ripe, reject the roots and stems; of *biennials*, use the whole the first year, the root in the fall, after the stems are dead, until they commence growing in the spring; afterwards, the shoots, leaves, and seeds, in succession, till the latter are ripe, when they are the strongest, as before stated. Of *perennial* plants, the root is always strong till it gets full growth, and the bark is the strongest part of the root, and also of the stem." The inner bark of shrubs and trees, is much the strongest, especially that of the root. Though the roots, stems, branches, twigs, leaves, flowers, and fruit, are useful in proportion to the strength of their sensible properties; yet these different parts do not always contain the same properties. Thus, the ripe may-apple is considered good food, and the leaves poisonous, while the root is a first rate medicine for the lovers of drastic physic. The gathering and preserving of plants is of much importance in the medical profession. Every head of a family should, from time to time, gather medical agents, and have them in readiness against the time of need, unless he wants to squander away his time, and money, and health, among a hungry swarm of men who live on the carcasses, and misfortunes of mankind. You may gather a growing, thrifty, *annual* plant, when its roots and stems are still juicy. If you want only the root, it may be gathered when the stalk is nearly dead; if you want the capsules, or seed, it may be procured when fully ripe. If you want the bark of perennials, it may be gathered when it will peel from the stalk the best. It is then the strongest. Dry carefully on paper, then label, and box up in a

small, tight box, ready for use. I have thus completed, in as few words as I am capable, many important items in the mineral, animal, and vegetable kingdoms. It could not be expected, in so short a space, that I could give all the minutia on these important subjects; but let no one complain, or find fault, until he learns, at least, as much as is here written.

PART VI.

CHAPTER I.—SECTION I.

DISPENSATORY.

389 ¶ THE compiler's original intention was to collect, arrange, simplify, and present, in as compact a style as possible, the true, essential and prominent points on both sides of medicine. How far I have observed these rules, I leave to the judgment of every candid, judicious, and impartial reader. It has cost me months of hard labor, to collect from the jarring and discordant works, this *practical synopsis*; and after all, I am fully of the opinion, that much more curtailment might take place, and then leave a clearer view on this important subject. The order of the day seems to be, long narration, confused description, and the use of many technical phrases: hence, there are so few, who have a clear and practical view of the science of medicine. One half of the time, and money, spent in studying physic, might have been saved, and students better qualified to heal

the maladies of the people, if they could have had suitable text books. These remarks, however, have been made, in order to elicit some one who has a better constitution, more time and money, than I have, to undertake this wearisome and unenviable task. The design of the following pages is, to exhibit such a list of *compound agents* and *means*, as are necessary for *both* systems of practice. In the first place, it will be necessary to speak of their preparations. The preparation of medicines, which constitutes the art of *pharmacy*, comes within the peculiar province of the apothecary. The *weights* used by him, in compounding medicines, are the troy pound and its divisions; those by which he buys and sells, the pound avoirdupois and its divisions. The troy contains, 5760 grains; the avoirdupois 7000. The *measures* used by the apothecary, are the wine pint, and the gallon. The gallon is divided into 8 pints, the pint into 16 fluid ounces, the fluid ounce into fluid drachms, and the fluid drachm into 60 minims. The following approximate measures are used in prescribing medicines, viz: a wine glass, containing two fluid ounces; a table spoonful, containing half a fluid ounce; and a tea spoonful, containing a fluid drachm. Most medicines have to be prepared. One of the simplest means of preparing medicines, is their reduction, by mechanical means, to a state of minute division. This includes the various operations of *pulverization*, *levigation*, *grinding*, *filing*, *rasping*, *sifting*, *bruising*, *slicing*, &c. Earthy, insoluble substances, are conveniently reduced to powder, by *levigation*. This is performed by moistening them with alcohol or water, and rubbing them on a hard flat stone, with a muller or rubber of the same material. The separation of solids

from liquids, is another mechanical operation, which is frequently resorted to, in practical pharmacy. It includes the processes of *decantation*, *filtration*, *straining*, *expression*, and *clarification*.

Decantation, is the process of separating solids from liquids, by allowing the solid to subside, and then pouring off the fluid.

Filtration, is the act of separating the liquid from the solid, by means of unsized paper folded into a cone, and placed in a glass funnel.

Straining, is performed through canvass, cloth, or muslin.

Expression, is required to separate the last portions of tinctures or infusions, from the drugs; a screw press is used for this purpose. It is also used for expressing the juices of fresh plants and oils.

Clarification, is the process of rendering the liquid clear, by the addition of some coagulable substance, as milk, white of eggs, &c.

The operations which require the aid of heat, in separation of substances, are *fusion*, *solution*, and *evaporation*. The vapors of some volatile solids have the property of condensing into solid form, either in mass, or in a state of the most minute division. The operation, in which this occurs, is called *sublimation*. When the product is compact, it is called a *sublimate*. When slightly adhering, it is called *flowers*. Some of the chemical processes conducted by the apothecary have been explained in the former part of this introduction. It remains to notice some others in constant, or frequent use.

Hot infusions, are made by pouring boiling water on a substance and allowing it to remain in a covered

vessel till cold. *Cold infusions* are made with cold water, and require several hours to attain their full strength.

Maceration, is the term employed to denote the action of liquids upon medicines, when allowed to remain upon them at a heat of from 60° to 90°. *Digestion*, is the name given to the same operation when conducted at a temperature of between 90° and 100°.

Decoction, or boiling, is sometimes employed in extracting the virtues of plants. From the solutions of vegetable principles obtained by these different processes, extracts are prepared by slow *evaporation*, so as to *inspicate* the liquid. Evaporation, at a gentle heat, is also performed for the *concentration* of saline solutions, in order to promote their *crystalization*.

Lixivation, is a process used for separating a soluble from a porous, *insoluble* body, as in leaching.

Precipitation, is sometimes mechanical, as in the process of *levigating* and *elutriating* the carbonate of lime; and sometimes chemical, as in the preparation of this salt by decomposing the muriate of lime. The operations which require a heat greater than that used in digesting, are *liquefaction*, *fusion*, *calcination*, *ustulation*, *incineration*, *distillation*, and *sublimation*.

Liquefaction, is the melting of those substances that become soft, previously to fusion, as wax, tallow, &c.

Fusion, is employed in pharmacy in preparing the nitrate of silver, and caustic potash, for casting into cylanders. The former must be melted in a porcelain, the latter in an iron crucible.

Calcination, is a term applied to the changes

produced in mineral substances, by intense heat, not attended with fusion, and leaving a solid residue, and is often synonymous with oxydation. The term *ustulation*, is restricted to the metallurgic operations of roasting ores to drive off the volatile matters, &c.

Incineration, as the name expresses, is the operation of burning substances for the sake of their ashes.

Distillation and *Sublimation*, have already been spoken of. *Distillation*, is used for separating a more volatile liquid, as ether or alcohol, from one less so; and also, for separating, by means of aqueous vapor, the essential oils, and volatile proximate principles of the vegetable kingdom. When a volatile liquid is separated from one less so, it is termed *rectification*. Distillation is also used for obtaining the volatile products of animal and vegetable substances. The oils which are obtained in this manner, are called *empyreumatic* oils. The fixed, or essential oils are generally obtained by *expression*.

In dispensing of medicines from the counter, the apothecary should use care and expertness. His pestle, mortar, spatula, and scales, should be clean: the bottles on the shelf should be constantly marked, immediately replaced, and on no account changed from their accustomed place on the shelf. No vial nor parcel should be suffered to leave the shop without its appropriate label, and in prescriptions this should consist of the physician's direction, as to the manner of taking it, and not the name of the medicine, unless it be so directed by him. Every thing connected with the shop—the dispensing and putting up of medicines and parcels, should be characterized by *neatness, accuracy, system, and competent knowledge*.

390 ¶ Every person who is engaged in prescribing and vending medicine should have some knowledge of diseases, remedies, and also with the art of prescribing them, so that they may exercise the greatest curative effect, with the least possible inconvenience. In prescribing, there are several things worthy of special notice. The *age* of the patient is one of the most important of these considerations. The dose for a person of middle age being a full dose. That of persons from 14 to 21 years will be $\frac{2}{3}$; 7 to 14, $\frac{1}{2}$; 4 to 7, $\frac{1}{3}$; of 4 years, $\frac{1}{4}$; 3 years, 1-6; 2 years, $\frac{1}{8}$; 1 year 1-12: to the above rule some exceptions are offered, in some particular medicines. *Sex, temperament, constitutional peculiarities, habit, &c.*, have also an influence upon the dose, and should be kept in view in prescribing. *Females* and *nervous* persons generally require smaller doses than males, and those of full and plethoric habit. Medicines should be made to suit the taste of the patient and the condition of the stomach. Always examine your patients *minutely*, prescribe promptly, administer judiciously, and see that the nurses attend strictly to the administration of the medicine, and all reasonable requests made by the suffering patient.

391 ¶ Before entering upon the medical properties, uses, and doses of medicine, it will be best to group together some of their main properties, so that, by an association of ideas, the student may sooner comprehend their uses in removing disease. As medicines possess several properties it cannot be expected that any accurate classification can be made. In order that a student may learn much in little time, I have defined most of the medical terms used in the medical profession.

CLASSIFICATION OF MATERIA MEDICA.

Narcotics—Anodynes. These are medicines which often have the inherent power of procuring sleep and easing pain.

Antispasmodics—Relaxants. These are medicines which have the power of relieving cramps, spasms, or inordinate motions of the system.

Tonics. These are medicines which strengthen or brace the system, or which increase the tone of the muscular fibre.

Astringents—Contractants. These are medicines which bind, contract, and render the solids denser and firmer.

Emetics. These are medicines which cause vomiting.

Cathartics. These are medicines which purge downwards.

Emmenagogues. These are medicines which promote the monthly or menstrual discharge.

Diuretics. These are medicines which augment the flow of urine from the bladder and kidneys.

Diaphoretics—Sudorifics. These are medicines which increase discharges from the skin, or produce perspiration.

Expectorants. These are medicines which cause a discharge from the breast, or increase a discharge from the lungs by coughing.

Sialagogues. These are medicines which excite a flow of saliva or spittle from the mouth.

Errhines—Sternutatories. These are medicines

which excite sneezing, or increase the secretion from the nose.

Epistaxis—Rubefacients. These are substances which excite blisters, or when applied to the surface of the body, are capable of producing a serous discharge by exciting a previous state of inflammation.

Refrigerants. These are medicines which cool the blood and allay the heat of the body.

Antacids. These are medicines which destroy acidity.

Lithontriptics. These are medicines which possess the power of dissolving the stone or calculi in the urinary passages.

Escharotics—Caustics. These are medicines which possess the power of destroying the texture of the various solid parts of the animal system, corrosive caustic or searing applications.

Anthelmintics—Vermifuges. These are agents or medicines which kill worms, or procure the evacuation of worms from the stomach and intestines.

Demulcents. These are medicines which are softening, mollifying, or are suited to obviate and prevent the action of acrid and stimulent matters.

Diluents. These are substances which increase the proportion of fluid in the blood, or thin other matter.

Emollients. These are articles which soothe, soften and possess the power of relaxing the living and animal fibre.

Abortives. These are agents which are capable of producing abortion or miscarriage.

Exhalations. These are materials which send out in vapors, or cause evaporations to take place from the surface of the skin.

Revellents. These are agents or counter-irritants which excite an action and draw the humors a contrary direction.

Inhalations. These are medicines which are inhaled through the respiratory organs.

PRACTICAL LIST OF COMPOUND AGENTS.

BALSAMS.

392 ¶ **BALSAMS** are vegetable juices, either liquid or which spontaneously become concrete, consisting of a substance of a resinous nature, combined with benzoic acid, or which are capable of affording benzoic acid, by being heated alone or with water, but readily dissolve in alcohol and ether; all the turpentine are examples of the *natural* balsams—besides many medicines compounded of various resins or oils, and brought to this consistence, have obtained the name of artificial balsams.

Expectorant Balsam. Take equal parts of rattle-root, spikenard, comfrey, and pleurisy root, steep down to a strong infusion, strain off, and add $\frac{1}{4}$ spirits and a little tincture of lobelia, and honey enough to make it the consistence of molasses. This is good in colds, coughs, asthmas, and other complaints of the breast—dose—a tea spoonful from 4 to 6 times a day.

BOLUSES.

393 ¶ *Bolus* is any medicine rolled round that is larger than an ordinary sized pea, and yet not too large to be swallowed. They are generally composed of powders, with a proper quantity of syrup, conserve or mucilage.

Diaphoretic Bolus. Take of gum guaiacum, in powder, 10 grains, flowers of sulphur and cream of tartar, of each, 1 scruple, simple syrup a sufficient quantity. In rheumatic complaints and disorders of the skin, this bolus may be taken twice a day. It will also be of service in inflammatory quinsy.

107 ¶ BOTANIC DEPARTMENT. *Cough Bolus.* Hoarhound, golden seal, unicorn, skunk cabbage, bone set, bayberry, nervine, 4 parts each, cayenne, cloves, and cinnamon, 1 part each, lobelia seed $\frac{1}{2}$ part; of loaf sugar, 12 parts, all in powder; mix to a thick dough, and form into boluses with mucilage of slippery elm, holly-hock blossoms, or comfrey root. This is excellent to remove coughs, wheezing, and other breast complaints.

CLYSTERS—INJECTIONS—ENEMAS.

394 ¶ *Clysters* are medicated liquors to be thrown into a natural or preternatural cavity of the body, by means of a syringe. They serve not only to nourish, but to purge, allay, and change the morbid action of the system, according to their composition. They are often of the highest service, and in cases of great irritability of the stomach, almost indispensable. Many cases occur in clinical practice where medicines cannot be taken by the mouth, as in apoplexy, palsey, wounds of the throat, stomach, hernia, &c. The injection should be retained in important cases by pressure made upon the fundament. As a general rule, *three* times as much of any remedy is required to produce a given impression by enema, as when taken into the stomach; but

where the object is to evacuate the bowels, the quantity of liquid administered should be considerable. The patient ought to be placed on the left side, and a metallic syringe will be the best instrument for administering injections.

Laxative enema. Take a table spoonful of common salt, 2 table spoonfuls of lard or sweet oil, the same quantity of molasses, and a pint of warm water. This forms an excellent enema for clearing out and removing obstructions from the bowels.

Anodyne enema. Take of tincture of opium $\frac{2}{3}$ of a drachm, warm water 4 ounces, or a mucilaginous fluid is preferable to water. This is an admirable remedy in obstinate vomiting, strangury from blisters, painful affections of the kidney, bladder, and niterus, and in the tenesmus of dysentery.

108 † BOTANIC DEPARTMENT. *Purgative enema.* Take 4 tea spoonfuls of black-root, and add 4 large spoonfuls of strong decoction of boneset, or 3 tea spoonfuls of bitter root, 1 tea spoonful of extract of butternut, then add mucilage and use.

Relaxing enema. Take 2 tea spoonfuls of lobelia seed, steep in a tea cup full of boneset, balm, or some other relaxant tea. Before using the bath or taking a course of medicine, it will be highly useful. No doubt but that the *sheet-anchor* of the botanic system lies in the constant and judicious use of relaxing, changing, and stimulating enemas.

CATAPLASMS — POULTICES.

395 ¶ *Cataplasms* or poultices are moist substances intended for external applications, of such a consistence as to accommodate themselves accurately to the surface to which they are applied, without being so liquid as to spread over the neighboring parts, or so tenacious as to adhere firmly to the skin. They are chiefly intended either to act as discutients to promote suppuration, or to change the morbid action of foul, gangrenous, corroding and foetid ulcers.

Discutient Poultices. Take of barley meal 6 ounces, fresh hemlock leaves bruised, 2 ounces, vinegar, a sufficient quantity; boil the meal and hemlock in vinegar for a short time, and then add 2 drachms of the sugar of lead, or sal. ammoniac.

Ripening Poultice. Take of flour 1 pound, yeast $\frac{1}{2}$ pint, mix, and expose the mixture to a gentle heat, until it begins to rise; or take flaxseed or slippery elm, and mix up with flour or meal to a proper consistence.

Cataplasms may be made of almost any emollient or tender culinary roots, as carrots, herbs, berries, seeds, onions, oils, &c.

109 ¶ BOTANIC DEPARTMENT. *Discutient Cataplasms.* Take lobelia and pond lily, sweet or linseed oil, and make into a proper consistence for a poultice.

Emollient Poultice. White pond lily, mallows holly-hock, field sorrel, slippery elm, comfrey, or basswood, will each and all form excellent poultices.

Cleansing Poultice. Take the dregs of No. 6 and slippery elm, and form into a proper consistence, or take charcoal, chloride of lime, and yeast, and make into a poultice.

SINAPISMS.

396 ¶ *Sinapisms* are mustard poultices with vinegar. They are powerfully exciting; they produce a sense of warmth in a few minutes; they are generally applied over the stomach, to the nape of the neck, wrists, arms, and to the soles of the feet; they are employed to recall blood and vital action to a part, and thus produce a revulsion; hence they are also of service in deep-seated pain and translation of diseases from one organ to another. The poultice should be removed when the patient complains of much pain. In many cases they are far preferable to blisters, and should be substituted in their stead.

Stimulant Cataplasm. Take mustard, ground, and mix up with corn meal and vinegar. It may sometimes be advantageously combined with cayenne, horse-radish, garlick, &c.

PEDILUVIUMS.

397 ¶ These are *baths* for the feet. Nothing, perhaps, contributes more to the preservation of health than to keep the feet warm, dry and clean, the head cool, skin moist, and the bowels open. The feet ought to be occasionally bathed and soaked in a medicated bath. The rheumatic and wandering pains will be frequently eased and removed from the extremities.

Liver bath. The *nitro-muriatic acid bath* is truly a great remedy in morbid disease, and other biliary organs. It excels, perhaps, most other agents for this purpose. Take of nitric acid, by measure, 1 part, muriatic acid, by measure, two parts; mix the acids in a refrigerated vessel, and keep the mixture in a well stopped bottle, in a cool and dark place. When used as a bath, three gallons of water, contained in a deep narrow tub, may be acidulated with six ounces of the acid. In this the feet and legs are to be immersed for twenty minutes or half an hour. It produces a tingling sensation in the skin, thirst and peculiar taste in the mouth, and at the same time stimulates the liver, as is evinced by an increased flow of bile. The bath may be employed daily, at first, and afterwards twice or thrice a week, or until the functions of the liver are excited to pour forth large quantities of bile. Medicated baths for the feet, of salt, vinegar, whiskey, bitter herbs, &c., will often prove highly serviceable in colds, rheumatism, gout, &c.

STYPTICS.

398 ¶ *Styptics* are a class of substances which possess the power of stopping bleedings or hæmorrhages. They mostly consist of caustic applications. The *actual cautery* was the term given only to the *red hot iron*. This was formerly the only means of preventing hæmorrhages from divided arteries, till the invention of ligatures. It was also used in diseases with the same view as we employ a blister. *Potential cautery* was the name by which potash was distinguished in former dispensaries. Surgeons of the present day understand by this term any caustic application.

Potential Caутery. Take potash, blue vitriol, lunar caustic, red precipitate, or burnt alum, in substance, and apply to the bleeding vessel; or most of these substances may be dissolved in a little water, and a dossil of lint wet with the solution and applied. Most of the acids, as nitric, muriatic, sulphuric, &c., are good agents to arrest bleeding. All astringents possess, in some degree, styptic properties. The nut-galls, sugar of lead, white vitriol, gum kino, muriated tincture of iron and opium are the most common articles used to stop passive internal, and sometimes external hæmorrhages.

110 ¶ BOTANIC DEPARTMENT. *Potential Caутeries.* Take 4th proof brandy, 2 ounces, castile soap 1 drachm, dissolve the soap, in the brandy, then add the potash and shake it well. When used for a wound, warm it, and dip lint into it, and apply it to the bleeding surface. Internal bleeding, as from the nose, womb, &c., are often stopped by a strong decoction of witch hazle leaves, bayberry root and bark, and a small proportion of No. 6. Drink and inject the same into the cavities. Alum whey or curd, and most of the astringent vegetable infusions will be found good agents in arresting the passive, and some of the more active hæmorrhages.

Nasal Styptic. Take pulverized blood-root 14 oz. witch hazle, 2 1-2 drachms, cranersbill 1 drachm, cloves 1-2 drachm, mix. Snuff, or blow into the nose slightly with a quill. Sometimes blood-root alone, or witch hazle will answer this purpose.

ANTISEPTICS.

399 ¶ Whatever possesses the power of preventing animal substances from passing into a state of putrefaction, and of obviating putrefaction when already begun, are called antiseptics. They are frequently of the highest value to the medical profession. The best antiputrefactives are those agents which reduce all inflammatory action below that point which tends to destroy the vitality of a part. There are *four* classes of agents which, to a considerable degree, resist the putrefactive process: 1st. The *tonics*, as Peruvian bark, augustura, &c., which are suited for every condition of the body, and are, in general, preferable to other antiseptics, for those of weak and relaxed habits of body; 2nd, *Refrigerating* antiseptics, as acids, which are principally adapted for the young, vigorous and plethoric; 3rd. *Stimulating*, as cayenne, wine, alcohol, &c., as best adapted for the old and debilitated; 4th, *Antispasmodic* antiseptics, as camphor, assafoetida, castor, musk, &c., which are to be selected for irritable, hysterical and hypochondriacal habits. Besides these, there are some agents which absorb away the moisture, prevent the presence of air, changing the action, and forming a new combination with animal matter.

Antiputrefactives. These may consist of pyroligneous acid, which may be applied to the dying part. Yeast poultice, mixed up with charcoal and applied to the diseased part, will often suddenly arrest the process of putrefaction. Chloride of lime, it is well known, possesses considerable power in arresting putridity.

Salt, from time immemorial, has been considered as the great restorer and preserver of animal matter.

111 ¶ BOTANIC DEPARTMENT. *Antiseptic Tincture.* Take gum myrrh, $\frac{1}{2}$ pound, cayenne, 1 ounce, put into 3 quarts of proof spirits, and let it stand some 8 or 10 days in a warm sun, pour off, and add balsam of fir $\frac{1}{2}$ ounce, wash the parts with soap suds, then freely wash with the above tincture, after a weak poultice of chloride of lime and charcoal, occasionally washing with the tincture.

SETONS.—ISSUES.

400 ¶ *Setons* are artificial ulcers made under the skin by means of an instrument called the seton needle, which carries with it a portion of thread or silk, that is moved backwards or forwards, and this keeps a constant irritation. They are of service in local diseases, to keep up a counter excitement, especially in complaints of the eye, ear, and where old sores have been speedily dried up.

Issues are formed by cutting a portion of skin, and burying a pea or some other irritating substance in it so as to produce a discharge of purulent matter. They are serviceable in deep-seated pains, and where you wish to dry up long accustomed discharges, or produce and maintain a revulsive action for a considerable time.

COLLYRIA, OR EYE-WATER.

401 ¶ *Collyriums* are mild fluid lotions, prepared of such strength as to be applicable to the eyes in many

cases of disease. Their effects evidently are to brace and restore the tone of the parts; hence they are principally of service in slight inflammation, and in that relaxed state of the parts which is induced by obstinate ones, and long accustomed and purulent discharges from that organ.

Astringent Collyrium. Take white vitriol and sugar of lead, of each from 4 to 6 grains, rain-water, one ounce—to be filtered or used without shaking; or take *nitrate of silver*, from 2 to 4 grains, pure rain-water, 1 ounce, mix and strain or filter. These form excellent eye-waters, particularly where you want astringent applications. The formula containing *nitrate of silver* will be found of essential service in purulent discharges from the eyes or lids. A collyrium of the *chloride of lime* has likewise been used with great advantage in chronic affections of the lids and eyes. Take chloride of lime, from 4 to 6 grains, laudanum, 10 drops, mucilage of gum arabic, $\frac{1}{2}$ dram, rose water, 2 ounces; mix and strain. A little to be dropped into the eye occasionally.

112 ¶ BOTANIC DEPARTMENT. *Healing Collyrium.* Take alum, from 8 to 10 grains, tinct. lobelia, a tea spoonful; mix and strain. This may be used several times a day. I have used medicamentum for many years, with the most decided effect. Most of the chronic sore eyes will readily yield by the application of half a drop of this article, dropped into the corner of the eye, three times a day, and continued for some time. Rose-water and milk form an excellent wash for the weak eyes of infants; it seldom fails to improve them, if continued for a time.

PLASTERS:

402 ¶ *Plasters* are solid compounds for external application, and are composed of unctuous substances, united either to powders or metallic oxides. They are generally made soft by moderate heat, and spread on leather, linen, or muslin, according to the particular purpose they are intended to answer. They are of great use in communicating medicinal agents, directly opposite the surface we wish to effect, as is diseases of the breast, deep-seated pains, &c.

Blistering Plaster. Take of Spanish flies, in powder, 1 pound, yellow wax, resin, sweet oil, each 8 ounces. To the wax, resin and oil, previously melted together, add the Spanish flies, and stir the mixture constantly until cool.

Adhesive Plaster. Take of soap plaster, 2 ounces, litherage plaster, with resin, 3 ounces, make a plaster, which is to be melted and spread on linen.

113 ¶ BOTANIC DEPARTMENT. *Strengthening Plasters.* These may be made by incorporating any stimulating ingredient in unctuous substances, and they must be varied or composed of different materials, according to the design you wish to effect, or the nature of the local affection. Burgundy pitch, hemlock, or sweet gum, in combination with the dregs of No. 6, form good strengthening plasters, and may be used in rheumatic, deep-seated chronic, and long standing cases.

FOMENTATIONS.

403 ¶ *Fomentations* are a sort of practical bathing, by applying hot flannels to any part, dipped in medicated decoction, whereby steams are communicated to the parts, their vessels are relaxed, and their morbid action sometimes removed. They are calculated to ease pain by taking off tension and spasm, or to brace and restore the tone and vigor of those parts to which they are applied.

Common Fomentations. Take tops of wormwood, tansy, rue, camomile flowers, or almost any of the bitter herbs, and boil them in water, pour off the liquor, and apply cloths wet in it to the parts affected, or the whole herbs may be put between flannel cloths, and applied. Sometimes warm spirits, vinegar, wine, or decoction of pepper, salt, poppy heads, &c., are used for this purpose. They should be applied warm, and mostly used to parts which are painful and attended with considerable irritation.

SALVES—OINTMENTS.

404 ¶ *Unguentum*, or ointments, are fatty substances of a consistence resembling that of butter, and such that they may be readily applied to the skin by inunction, or used in dressing wounds and hurts.

○ *Mercurial Ointment.* Take of purified mercury, 2 pounds, lard, 23 ounces, suet, an ounce. Rub the mercury with the suet and a small portion of the lard, till the globules disappear, then add the remainder of

the lard, and mix. If the globules of mercury be rubbed with the oil of eggs, it will break down the mercury, and save much time in making the ointment. Mercurial ointment, when rubbed on the body, produces, in consequence of its absorption, the same general effects upon the system as the other preparations of the metal. It is good for the itch, venereal buboes, and chronic glandular swellings.

Precipitate Ointment. Take red precipitate, 1 part, lead, 8 parts, and mix them thoroughly.

Iodine Ointment. Take of Iodine, 1 scruple, lard one ounce; rub them together, so that they may be completely mixed. This is good in scrofulous and glandular swellings.

Tobacco Salve. Take of fresh tobacco, cut in pieces, 1 ounce, lard, 1 pound, boil the tobacco in the lard, over a gentle fire, till it becomes friable, then strain through linen. This ointment is useful in irritable ulcers, and various cutaneous eruptions, particularly scald head, tetters, ringworms, &c.

114 ¶ BOTANIC DEPARTMENT. *Elder Salve.* Make a strong decoction of the inner bark of the dwarf elder, (white pithed.) then put it into lard, or what is still better, mutton suet, and simmer it away, till it becomes of a proper consistence. This forms an excellent healing, cleansing, and soothing salve. It may be used in cuts, sores, and ulcers, to the best advantage.

—*Healing Salve.* Take equal parts of rosin, beeswax, mutton suet, fresh butter, or sweet oil; $\frac{1}{4}$ part of white pine turpentine, and $\frac{1}{8}$ balsam of fir; simmer the whole together till well incorporated. This is a very good healing salve. —

— *The Sweet Gum Wax*, in combination with the elder, forms an excellent soothing application. All the medical and healing plants may be made into salves, in a similar way to that of the elder, and used as circumstances may require. *The sour dock*, gently simmered with lard and made strong, forms an ointment for the itch, which is equal, if not superior, to any other application.

LINIMENTS.

— 405 ¶ *Liniments* are preparations intended for external use, of such a consistence as to render them conveniently applicable to the skin, by gentle friction with the hand. They are often of considerable service in removing deep-seated pain, and changing the morbid action of a part.

— *Rheumatic Liniment.* Take equal parts of spirits of turpentine, spirits of ammonia, camphor, and alcohol, mix them together, and apply the liniment to the affected part. This is an excellent preparation for removing nervous, rheumatic, and other painful complaints. *Opodeldoc* is frequently used in sprains, bruises, and rheumatic pains.

— *Volatile Liniment.* Take of spirits of hartshorn $\frac{1}{2}$ fluid ounce, sweet oil 2 fluid ounces; mix them. This liniment is an excellent rubefacient, frequently employed in inflammatory affections of the throat, rheumatic, and breast complaints.

115 ¶ BOTANIC DEPARTMENT. *Liniments* may be made from strong decoctions of the plants, which are to be mixed with the fixed oils; as sweet oil,

linseed, or fresh butter ; and evaporate them till of a proper consistence : or procure the oil by distillation, which may be used alone, mixed with each other, or cut with alcohol into essences, and used in that form.

— *Liniment for burns.* Take quick lime, slack and pour it off, and mix with it equal measures of sweet oil ; and if the burn is deep, and of a purple or dark color, add a portion of spirits of turpentine to the above liniment. This is found to be an exceedingly proper application for burns and scalds. It may be applied, by means of cloths, soon after the excessive heat and burning is allayed by the application of cold water, and kept constantly on.

— *Liniment for Piles.* Make a strong decoction of Jimson weed, or, as it is called, *stramonium*, add some of the decoction of gall nuts and lard, to make of a proper consistence. This forms a valuable liniment for piles, fistulous ulcers, sores, &c.

— *Stimulating Liniment.* Take cayenne and steep in strong vinegar, then press out the liquid, and add a portion of sweet oil. This is a valuable stimulating liniment, and may be safely used in rheumatic, debilitated, and palsied cases.

— *Antispasmodic liniment.* Take powdered nervine, and lobelia, and add as much vinegar, and press out the juice ; or take the lobelia and nervine, and make a saturated tincture. This preparation possesses considerable relaxant powers, and may be applied to all cold and constricted parts, and surfaces.

ELECTUARIES—CONSERVES.

406 ¶ *Electuaries*, are mixtures consisting of medicinal substances, especially dry powders, combined with syrup or honey, in order to render them less unpleasant to the taste, and more convenient for internal use.

*Conserve*s, consist of recent vegetable substances and refined sugar, beat into a uniform mass. By means of the sugar, the vegetable matter is enabled to resist decomposition for some time, to which it would be exposed in the undried state, and the properties of the recent plant are thus retained, to a certain extent, unaltered. These confectionary preparations are of considerable importance, in prescribing to weak and irritable stomachs.

∖ *Aromatic Confection*. Take of cinnamon, cardamom, ginger, each 1 ounce; syrup of orange peel 2 ounces. Beat them together till they are thoroughly mixed. It is given in debilitated states of the stomach alone, or as an adjuvant to other medicines. The dose is from 10 to 60 grains.

∖ *Electuary for Piles*. Take flowers of sulphur 1 ounce, cream of tartar $\frac{1}{2}$ an ounce, molasses a sufficient quantity to form an electuary. This is a valuable preparation in piles attended with a costive habit of body; a tea spoonful of this may be taken 3 or 4 times daily.

116 ¶ BOTANIC DEPARTMENT. *Conserve, or Woman's Friend*. "To a pound fresh blossoms

of holly-hock, well bruised in a mortar, add 4 pounds of sugar, pound them together till well mixed, then add of poplar bark, bayberry, golden seal, nervine, cloves, and cinnamon, each, 2 ounces, cayenne 1 ounce, and bitter root $\frac{1}{2}$ ounce, oil of pennyroyal a table spoonful; mix and knead in a mortar till it becomes thick like dough." Roll it then, and dry. This mixture is a volatile stimulant, tonic, and restorative, and may be used in debilitated cases, where females have lost their health by taking cold.

— *Confection of Roses.* Take of red roses, unblown, 1 pound, sugar 3 pounds. Bruise the roses, then gradually adding the sugar, beat the two together till they are thoroughly mixed. This is slightly astringent, but is almost exclusively used as a vehicle of other medicines, or to impart consistence to the pilular mass.

BITTERS.

407 ¶ *Bitters* are combinations of medical substances which impart a pungent taste to the mouth. They generally impart tone, energy, and power to the stomach, and digestive functions.

— *Purgative and Tonic Bitters.* Take of aloes and canella, each 1 ounce; anise seed and rhubarb, each 1 ounce. Pulverize, and put into $\frac{1}{2}$ pint of whiskey or brandy. A tea spoonful, or more, may be taken 2 or 3 times a day, as the case requires. It is an excellent bitter, and ought to be kept in families, and used as circumstances demand. It is good in costiveness, colds, worms, dispepsies, &c.

117 ¶ BOTANIC DEPARTMENT. *Spiced bitters.* "Take 4 parts each of poplar bark and golden seal, 6 parts of bayberry, 2 parts each of prickly ash and cloves, 3 parts each of unicorn and nerve powder, 1 part cayenne, 16 parts loaf sugar. Pulverize and mix. This forms a good family bitter. This preparation is neither relaxing nor constipating. It is so combined as to stimulate the organs to a discharge of their morbid contents, strengthen them to the performance of their ordinary duties, and enable them to protect themselves against further injury."

Wine bitters. Any two or more of the bitter tonics, as balmony, poplar, golden seal, and prickly ash, may be put in good wine. When you wish to keep the bowels open you may put in the laxative articles, as boneset, bitter root, &c. When you would correct looseness, the astringents, as bayberry, sumach, or hemlock. In like manner, you can form compound agents so as to produce almost any effect.

COMPOSITIONS.

408 ¶ As no two simple ingredients operate upon an organ or part, exactly alike, or to the same extent; therefore, we can often exert a compound control over the system by suitable mixtures. Incompatibles, inert, and useless substances, or more ingredients than necessary to answer a specified purpose, should not be mixed together. The disgust so justly excited by the *poly pharmacy* of our predecessors, may have induced the physicians of the present day to carry their ideas of simplicity *too far*, so as to neglect and lose the advan-

tages which, in many cases, beyond all doubt, may be obtained by scientific combinations.

— *Family composition.* Take 1 ounce each of aloes and canella alba bark, $\frac{1}{4}$ ounce each of rhubarb, cinnamon bark, and anise seed. Pulverize and mix together. Sometimes I add $\frac{1}{8}$ ounce of assafoetida. A sufficient quantity of this composition may be given three times a day, to keep up an action of the bowels. Two or three passages daily, will generally be sufficient. For more than fifteen years I have constantly used this mild, permanent, and stimulating physic, in menstrual, dyspeptic, hysterical, and hypochondriacal complaints.

— *Bladder composition.* Take equal parts of balsam capaiba, sweet spirits of nitre, and essence of juniper; mix and shake well together. Sometimes I add $\frac{1}{2}$ part of medicamentum, and $\frac{1}{8}$ part of laudanum. When there is considerable pain and irritation, this addition should take place. This mixture is valuable in painful and difficult menstruation, and in most of the painful diseases of the bladder, attended by a sense of bearing down, and difficulty of making water. Dose, 2 tea spoonfuls, 2 or 3 times daily.

118 ¶ BOTANIC DEPARTMENT. *Thompson's composition.* Take 2 parts of bayberry, 1 part of ginger, $\frac{1}{8}$ part each of cayenne and cloves. Shake well together in a corked bottle, till well mixed. This composition has been extensively used in colds, weakness, obstructed perspiration, &c. Dose, a tea spoonful, sweetened to the taste.

— *No. 6.* Take 1 gallon of good fourth proof brandy, or any kind of high wines, (good strong whisky will do,) 1 pound of gum myrrh, pulverized, 1 ounce of

cayenne. Mix, and let stand for 5 or 6 days, shaking well every day. It is a remedy much celebrated for its stimulating qualities in debility, prostration, and loss of action. It is also frequently used externally, in rheumatism, sprains, old sores, and on parts approaching gangrene or mortification. Dose, 1 to 2 tea spoonsful, given in syrup or mucilage. —

DECOCTIONS.

409 ¶ *Decoctions* are made by boiling any medicine in a watery fluid. Vegetables generally yield their soluble ingredients more readily and in larger proportion to water, maintained at the point of ebullition, than to the same liquid at a lower temperature. By this process medicines can be speedily prepared. The action should be conducted in a covered vessel, so as to confine the vapor over the surface of the liquid, and should not be continued long. In many substances the active principle is volatile at a boiling heat, and in others it undergoes some change unfavorable to its activity. Hence, in all these instances, infusion is preferable to decoctions. They are intended for immediate use.

— *Decoction of sarsaparilla.* Take of sarsaparilla, sliced and bruised, 6 ounces, water 6 pints. Boil down to 4 pints and strain. This decoction may be used as a gentle diaphoretic and alterative in obstinate cutaneous affections, chronic rheumatism, scrofulous, syphilectic, and other depraved conditions of the system. Dose, from 4 to 6 fluid ounces 3 or 4 times daily.

119 ¶ BOTANIC DEPARTMENT. *Decoction of dogwood.* Take of dogwood bark bruised, 1 ounce, water 1 pint, boil for 10 minutes in a covered vessel, and strain the liquor while hot. This decoction possesses similar powers to that of peruvian bark, and in intermittent fevers is very good. The dose is 2 fluid ounces, and often repeated.

— *Decoction of Indian arrow-root.* This is made from the bark of the root. It is a valuable article in the treatment of *dropsical* complaints. It possesses tonic, and in large doses very powerful cathartic, and diuretic properties. It stands pre-eminent in dropsies of the abdomen, and other local and general dropsies; most other vegetable plants may be used in the form of decoctions.

INFUSIONS.

410 ¶ *Infusions* are aqueous solutions, made by pouring water of any degree of temperature on such substances as have a loose texture, and suffering it to stand a certain time. The *hot* infusion is made with warm or hot water, and the *cold* with cold water, where there is danger of driving off the active or volatile principle. The substances should be made fine, and if they are weak the liquor returned on fresh quantities of the subject, and infused in vessels fitted with covers. They do not keep long in warm weather, therefore they must be made extemporaneously and in small quantities.

— *Infusion of wild cherry.* Take of wild cherry $\frac{1}{2}$ ounce, cold water 1 pint; macerate for 12 hours or more, and then pour off as you want for use. This infusion contains prussic acid, which, it is well known,

is capable of moderating, nay, even removing all the symptoms attending the early stage of consumption or hectic fever. Undoubtedly this bark will do as much, if not more, to relieve a patient from the *coughs, sweats* and general debility in consumption, than any other article known to the profession. It is also good in asthma, chronic hysterics, and rhumatic pains and swellings; and in many cases of ague and fever—dose, a wine glass full 4 or 5 times daily. —

120 ¶ BOTANIC DEPARTMENT. *Infusion of Boneset.* Take boneset, an ounce, boiling water 1 pint, macerate for 2 hours in a covered vessel, and strain. As a tonic, this infusion should be taken cold, in the dose of 2 fluid ounces 3 or 4 times daily; and as an emetic and diaphoretic, in large tepid draughts.

— *Infusion of Lobelia.* Take $\frac{1}{2}$ an ounce of the lobelia plant, steep in 1 pint boiling water for an hour, strain and sweeten; 2 or 3 table spoonsful may be given every few minutes, until you produce the desired effect. This preparation is relaxant, diaphoretic, expectorant, and emetic. It was first introduced into practice from its effects in phthisical and asthmatic cases, and subsequently as a common emetic, antispasmodic, and diaphoretic, where these actions are to be promoted. Almost any of the herbs may be infused for an hour or two, strained and sweetened, ready for use. It is in the form of teas, that most of the bitter herbs are given, as in this form they excite greater relaxant and diaphoretic powers.

LIQUORS—SOLUTIONS.

411 ¶ These terms mean, an intimate commixture of solid bodies with fluid waters, impregnated with medicinal properties. This is a convenient way of preparing and administering many compound agents.

— *Liquor calcis*—*Lime water*. Take, of fresh burnt lime, 4 ounces; pure water, 1 gallon; pour the water upon the lime, and stir them together, then immediately cover the vessel, and set it aside for three hours. Keep the solution together with the undissolved lime, in stopped glass bottles, and pour off the clear liquor when it is wanted for use. Lime water is antacid tonic and astringent, and is very usefully employed in dyspepsia, with acidity of stomach, diarrhœa, diabetes, and gravel, attended with a deposit of red sediment or uric acid. It is also good in nausea and vomiting, dependent on irritability of the stomach. Externally it is employed in foul and gangrenous ulcers, burns, and scalds. The dose is from 2 to 4 fluid ounces, taken several times a day in milk. —

121 ¶ (BOTANIC DEPARTMENT. (*Tar solution.*) Take, of tar, 2 pints; water, 1 gallon; mix, stirring with a wooden rod for 15 minutes; then after the tar shall have subsided, strain the liquor and keep it in well stopped bottles. It has been esteemed good in catarrhal coughs, consumption, and urinary complaints. From 1 to 2 pints may be taken in the course of a day.

— *Solution of potassa.* Take, of carbonate of potassa, 1 pound; lime fresh burnt, $\frac{1}{2}$ pound; pure boiling water, 1 gallon. Dissolve the potash in 2 pints of water, and add the remainder to the lime: mix the hot liquors, then set the mixture aside in a covered vessel, and when cold, strain it through a cotton cloth. This solution is antacid, diuretic, and antilithic. It is used in gravel complaints, and many cutaneous affections. It is also frequently given in dyspepsia, and sickness of the stomach, during a course of medicine. It may be given in sweetened water, veal broth, or table beer: the dose is from 10 to 30 drops, 2 or 3 times a day, and gradually increased. —

EMBROCATIONS.

415 ¶ (*Embrocations*,) are fluid applications with which to rub any part of the body. They are similar to liniments. They are strong revelants and may be used to draw the humors a contrary way. Hence, deep seated pains may often be removed by these counter-exciting agents.

— *Excitant embrocation.* Take 2 ounces each, oil of cedar and spike; 1 ounce of alcohol; mix and shake. This is very efficacious in removing rhumatic and deep seated pain. Rub the part affected, 2 or 3 times a day, by gentle heat. —

— *Discutient embrocation.* Take 2 ounces finely pulverized sal ammoniac, and 1 quart of whiskey or brandy; mix and shake until dissolved. This may be applied to painful tumors, bruises, and sprains, often with the happiest effects. —

122 ¶ BOTANIC DEPARTMENT. *Paralytic and rheumatic oil and embrocation.* Oil. Take British oil 12 ounces; oil amber, 2 ounces; oil spike, 3 ounces; sweet oil, 2 ounces; tincture capsicum, 1 ounce; neat's foot oil, 10 ounces. —

— *Embrocation.* Take hemlock oil, $\frac{1}{4}$ ounce; oils of winter-green and cinnamon, 3 ounces; oil origanum, 1 ounce; whiskey, 2 ounces; mix and shake. The stimulating oil may be rubbed on first, and then the embrocation. —

— *Embrocation for sprains.* Take pulverized sal ammonia $\frac{1}{2}$ drachm; spirits of hartshorn 2 drachms; oil spike 2 drachms; oil of turpentine 1 gill; mix and bathe the affected part, 2 or 3 times daily. —

EXTRACTS.

413 ¶ *Extracts* are solid substances, resulting from the evaporation of the solutions of vegetable principles, obtained either by evaporation of a menstrum, or by expressing its juice in the recent state. It is sometimes the case that *spontaneous* matter exudes from the vegetable kingdom, which has received the name of *extractive*. Extracts are generally made by boiling the substances in water and alcohol, when the principles to be extracted are insoluble in water. Many plants, when green, yield their active principle mostly by *expression*. It is best, in order to prevent burning the extract, to finish the evaporation by means of the water bath, and reduce it to that state of solidity that it can be readily formed into pills.

— *Extract of nightshade.* Take the fresh leaves of *Belladonna*; bruise them in a mortar, sprinkling on a

little water, then express the juice and evaporate to the proper consistence. The extract of nightshade is said to be valuable in arresting the continuance of whooping cough. It is also prescribed in epilepsy, mania, amaro-sis, palsy, rheumatism, and affections of the nervous system. It has been used by the German physicians as a prophylactic of scarlet fever. The dose should be from $\frac{1}{4}$ to $\frac{1}{2}$ grain; repeated 2 or 3 times daily, and gradually increased till the effects are experienced.

Extract of dandelion. Take a pound of the roots of dandelion; water, 1 gallon; boil down to 4 pints, and strain the liquor while hot, then evaporate to the proper consistence for pills. This is a valuable agent in affections of the liver, lungs, stomach, and digestive apparatus. The dose is from 20 to 30 grains, three times daily.

123 ¶ BOTANIC DEPARTMENT. (*Extract of butternut.*) Take the inner bark of the *juglans cinera*, and boil down and strain, then gently simmer to a proper consistence for pills. This forms a mild unirritating cathartic, operating on the alimentary canal and biliary organs, without debilitating those organs. The dose is from 20 to 30 grains as a purge; from 5 to 10 grains as a laxative.

Extract of elder. Take the ripe berries or inner bark of the *sambucus canadensis*, which is a native of this country; boil down, strain, and simmer to a solid extract. This extract is used mostly as the basis of the healing salves, which is said to be exceedingly useful. The berries are diaphoretic and loosening, the inner bark is a hydragogue cathartic.

— *Extract of smartweed.* Take, of the whole plant, boil down, strain, and gently simmer to a proper consistence for pills. *Dr. Eberle* might have stated, in his materia medica, that *Dr. B. Eastman* was the man who wrote his *thesis* on this new emmenagogue, as his *alma mater* will show. It will excite a powerful action in the uterine organs which may be continued for a considerable time. Dose, from 4 to 6 grains, often repeated, until the catamenial discharge takes place. —

TINCTURES—ELIXIRS.

414 ¶ *Tinctures* are solutions of medicinal substances in alcohol, or diluted alcohol, prepared by maceration or digestion. Rectified spirits of wine is the direct menstrum of the resins and essential oils of vegetables, and totally extracts their active principles from sundry vegetable matters which do not yield to water. In numerous instances proof spirit is preferable, being cheaper and less stimulating. The vessel should be kept well stopped, frequently shaken, and the process continued for two weeks or more.

— *Paregoric elixir.* Take of opium, in powder, benzoic acid, oil of anise, each, 1 drachm; liquorice extract $\frac{1}{2}$ an ounce; honey 2 ounces; camphor 2 scruples; proof spirits 2 pints; *red sanders* to color; macerate for 14 days and strain. This is a very pleasant anodyne and antispasmodic, much used to allay coughs, griping, and to relieve nausea and slight pains in the stomach and bowels. The dose for an infant is from 5 to 20 drops; for an adult, from 1 to 2 fluid drachms. —

— *Laudanum.* Take of opium, in powder $1\frac{1}{4}$ ounce, proof spirits 1 pint; macerate for 14 days and filter.

The tincture of opium is used for all the purposes to which opium itself is applied: 1 grain of opium is equivalent to 25 drops. —

— *Tincture of iodine.* Take of iodine $\frac{1}{2}$ ounce; alcohol $\frac{1}{2}$ pint. Dissolve the iodine in the alcohol. Iodine was first used as a cure for *bronchocele*, or the swelling and enlargement on the fore part of the neck. It has since been used with great success in scrofulous and glandulous complaints. It is capable of producing very important *alterative* effects, especially in dropsies and enlargements of the liver, spleen, testes, ovaria, breasts, or other organs. It is found, of late, to arrest speedily the progress of *erysipelas*, when applied externally to the eruptive and spreading surface. Dose, from 10 to 20 drops, gradually increased to 40 or 50 drops, 3 times a day, given in sweetened water, and continued, in some cases, for a considerable time. —

— *Elixir of vitriol.* Take of sulphuric acid $3\frac{1}{2}$ fluid ounces; ginger, bruised, 1 ounce; cinnamon, bruised, $1\frac{1}{2}$ ounce, alcohol 2 pints; drop the acid gradually into the alcohol, and digest in a close vessel for 3 days; then add the ginger and cinnamon, and moderate for a week; strain or filter. This valuable preparation is tonic and astringent, and is much employed in debility with night sweats, in loss of appetite, last stage of fevers, hæmoptysis, &c. It very much increases the effect of quinine and bark, and should be generally mixed with it. Dose, 10 to 30 drops in water, repeated 2 or 3 times a day. —

124 ¶ BOTANIC DEPARTMENT. *Tincture of lobelia.* Take of the herb 4 ounces, proof spirits 2 pints; macerate for 14 days and filter through paper, or strain. This tincture possesses the emetic, relaxant, and

diaphoretic properties of the tea of lobelia, and is used in most cases where the action of lobelia is indicated. Dose is usually $\frac{1}{2}$ fluid ounce, in warm water, sweetened to the taste. —

— *Tincture of cayenne.* Take of capsicum 1 ounce; proof spirits 2 pints; macerate for 14 days and filter. This is a great stimulant when needed in cases of debility; dose is 1 or 2 fluid drachms. When used as an external application add as much hot vinegar, and then rub the affected parts. —

— *Compound tincture of cinnamon.* Take of cinnamon ground 6 drachms, cardamom seeds bruised 3 drachms; ginger ground 2 drachms; proof spirits 2 pints; macerate for 14 days and strain. This is a warm aromatic tincture, useful in flatulence, spasm of the stomach, and gastric debility: the dose is 1 or 2 fluid drachms. —

MIXTURES—EMULSIONS.

415 ¶ *Mixtures* are those preparations in which insoluble substances, whether solid or liquid, are suspended in watery fluids, by the intervention of mucilage, sugar, yolk of eggs, or other viscid matter. When the suspended substance is of an oleaginous nature, the mixture is called an *emulsion*. The object of these preparations is usually, to facilitate the administration, to conceal the taste, or to obviate the nauseating effects of unpleasant medicines.

— *Chalk mixture.* Take of prepared chalk, $\frac{1}{2}$ ounce; sugar, gum arabic, in powder, each 2 drachms; cinnamon water and water each, 5 fluid ounces; rub them together till they are mixed. This is much employed in looseness of the bowels, accompanied with acidity: if neces-

sary to be more astringent, paregoric, kino, or sugar of lead, may be added to the mixture: dose, a table spoonful frequently repeated.

— *Squill mixture.* Take of simple cinnamon water, 5 ounces; vinegar of squills 2 ounces; syrup of marsh mallows $1\frac{1}{2}$ ounce; mix them. This mixture, by promoting the secretion of urine proves serviceable in dropsical and asthmatic habits: dose, 1 table spoonful frequently repeated.

125 ¶ BOTANIC DEPARTMENT. *Diuretic mixture.* Take juniper berries $\frac{1}{2}$ ounce; asparagus, parsley, and pleurisy root, each $\frac{1}{2}$ ounce; pulverize and mix. A tea spoonful may be taken frequently in simple syrup, mixed with the essence of winter green. This mixture operates upon the urinary organs as a valuable diuretic.

— *Diarrhœa mixture.* Take the bark of sweet gum, 2 pounds; blackberry root, $\frac{1}{2}$ pound; boil down to a thick syrup; give a tea spoonful frequently, mixed with simple syrup or mucilage of slippery elm. I have frequently arrested the worst bowel complaints with this mixture, given by the mouth and used as enemas.

MUCILAGES.

416 ¶ *Mucilage* is an aqueous solution of gum, or of any bland, viscid, aqueous, vegetable solution resembling that of gum, in sensible properties. It is generally used in making pills, suspending insoluble substances, and soothing irritated surfaces.

Mucilage of gum arabic. Take of gum arabic in powder, 4 ounces; boiling water, $\frac{1}{2}$ pint; add the

water gradually to the gum, rubbing them together till the mucilage is produced.

126 ¶ BOTANIC DEPARTMENT. (*Mucilage of starch.*) Take of starch 3 drachms; water 1 pint; rub the starch with the water, gradually added, then boil till a mucilage is produced. —

— *Mucilage of slippery elm.* Pour hot or cold water on slippery elm bark, and let it stand for several hours. These mucilages are good to mix with injections, or may serve as vehicles for other medicines. —

PILLS.

417 ¶ *Pills* are small round masses, of a size convenient for swallowing. They are well adapted for the administration of medicines which are unpleasant to the taste or smell, or insoluble in water, and do not require to be given in large doses. The ingredients should be well mixed together, properly moistened with water, mucilage, or tenacious liquids, and in order to prevent their adhesion and conceal their taste, they should be well rolled in flour, magnesia or powdered liquorice.

— *Compound cathartic pills.* Take of compound extract of colocynth $\frac{1}{2}$ an ounce; extract of jalap in powder, calomel, each 3 drachms; gamboge in powder, 2 scruples. Mix the powders together with water, form into a mass, and divide into 180 pills. In a full dose, the preparation acts vigorously on the bowels, producing vigorous stools, generally without much pain or disorder of the stomach. The dose, is from 3 to 4 pills. —

— *Antibilious pills.* Take aloes and jalap each 1

ounce; gamboge 5 drachms; scammony 3 drachms; tartar emetic 3 drachms; calomel 2 drachms; castile soap and cayenne, each, 1 drachm. Mix, and roll into common sized pills. Dose, from 2 to 4 pills. This is a very active pill, and may be used in most cases where you want a prompt and energetic operation from the bowels.

Lee's pills. Take aloes, calomel, each, 30 grains; rhubarb 15 grains; castile soap 10 grains. Mix, and make up into pills of the usual size.

Cook's pills. Take of calomel, aloes, and rhubarb, each, 1 drachm. Mix with a few drops of water, and divide the mass into 30 pills.

Anderson's pills. Take of aloes 36 grains; scammony 24 grains; oil of anise 2 drops; sulphate of iron 3 grains. Mix, and divide the mass into pills of a small size.

127 ¶ BOTANIC DEPARTMENT. *Vegetable*

Pills. Make an extract of boneset, white walnut, and indian arrow root, each; then take equal quantities of each; mix and make up into pills of large size. This forms a very good purgative pill; the dose will be regulated according to the effect you wish to produce.

Drastic Pills. Take extract of bitter root, indian arrow root, and gum gamboge, each, equal quantities; mix up the mass with the essence of peppermint and roll into pills. This forms an energetic and very active pill.

Purgative Pills. Take aloes, rhubarb, and the extract of jalap, or white walnut, each, equal parts; gamboge $\frac{1}{4}$ part; cayenne and castile soap, $\frac{1}{8}$ part; mucilage of gum-arabic sufficient to make up the mass; divide

into pills, always give and regulate the dose according to the effect you wish to produce.

Tonic Pills. Take of capsicum and rhubarb, each, $\frac{1}{2}$ drachm; ginger and extract gentian, each, 2 drachms; mix and make into 150 pills.

Alterative and Tonic Pills. Take pulverized green lobelia, 1 tea spoonful; pulverized nerve powder, 2 tea spoonsful; pulverized capsicum, $\frac{1}{4}$ tea spoonful; gum myrrh, $\frac{1}{2}$ tea spoonful; add No. 6, and make into pills with gum arabic.

Relaxant Pills. Take lobelia seeds, 1 part; extract of boneset, liquorice, each, 2 parts; mucilage of gum arabic sufficient to make up the mass into pills. Whenever you wish to relax the system, and keep up this state of relaxation, give a sufficient number of these pills to produce nausea of the stomach, and repeat them as fast as the stomach will bear without exciting the action of vomiting.

POWDERS.

418 ¶ *Powders* are convenient for exhibition when they are not disagreeable to the taste, or to be given in small quantities. They should be finely pulverized, well mixed together, kept in darkened and well stopped bottles, and when given, fitted to the taste, either in water, syrup, mucilage, honey, or some of the confections.

Dover's Powders. Take of ipecac, in powder, opium, in powder, each, 1 drachm; sulphate of potash, 1 ounce; rub them together into a very fine powder. This powder is an admirable anodyne diaphoretic; not sur-

passed perhaps by any other combination in its power of promoting the cutaneous secretion.

— *Soda Powders.* Take of tartaric acid and put up in separate white papers, 25 grains in each paper; bicarbonate of soda, 30 grains each, in separate blue papers. When used, the acid and soda are dissolved in separate portions of water sweetened, and the solutions mixed and drank in a state of effervescence.

— *Aromatic Powder.* Take of cinnamon, cardamom, and ginger, each, 2 drachms; rub them together into a very fine powder. These powders are stimulant, and carminative, and may be given in the dose of from 10 to 30 grains in cases of enfeebled digestion, accompanied with flatulence.

128 ¶ BOTANIC DEPARTMENT. *Laxative Powders.* Take poplar, golden seal, bitter root, balm-ony, extract of boneset, of each, equal quantities. This powder may be taken in emulsion of gum arabic, or slippery elm. It is often used to prevent costiveness, and give action to the bowels.

— *Infantile Powder.* Take extract of elder, 3 parts; butternut extract, 1 part. This powder may be given in molasses or syrup. It will occasionally prove emetic, and often gently loosen the bowels.

— *Biliary Powder.* Take extract of dandelion, 3 parts; extract of boneset, 1 part; to be taken in simple syrup. This is good in deficient biliary secretion, and is thought to possess some specific action on the liver.

SYRUPS.

419 ¶ *Syrups* are concentrated solutions of sugar in watery fluids, generally incorporated with vegetable infusions, decoctions, expressed juices, fermented liquids. Medicated syrups are also occasionally prepared by adding a tincture to a simple syrup and evaporating the spirituous ingredient. They are liable to undergo various alterations according to their nature and mode of preparation. When made, they should be clarified, kept in a cool place and in full bottles well corked, and used as soon as needed.

— *Simple Syrup.* Take of refined sugar, $2\frac{1}{2}$ ounds; water, 1 pint; dissolve the sugar in the water, in a water bath, then set it aside for 24 hours, take off the scum if there be any feculencies, pour off the clear liquor from them. This syrup is very useful in the formation of pills, mixtures, and in various other pharmaceutical operations in which sugar in solution is required.

el 04 — *Aromatic Syrup of Rhubarb.* Take of rhubarb, $2\frac{1}{2}$ ounces; cloves, cinnamon, each, $\frac{1}{2}$ ounce; nutmeg, 2 drachms; proof spirits, 2 pints; syrup, 6 pints; macerate the rhubarb and aromatics in the proof spirits for 14 days, and strain them by means of a water bath; evaporate the liquor to 1 pint, and while it is still hot, mix it with the syrup previously heated. This is a warm stomach laxative, well calculated for the bowel complaints of infants. Dose for an infant, a fluid drachm, repeated frequently. *5404*

129 ¶ BOTANIC DEPARTMENT. *Cough and Phthisical Syrup.* Take a strong decoction of rattle root, spikenard, each, a pint; cold infusion of wild cherry bark, a quart; tincture of blood root, and lobelia, each, 2 ounces; honey, sufficient to form a pleasant syrup; simmer down $\frac{1}{2}$, and bottle up ready for use.

TROCHES—LOZENGES.

420 ¶ These are small dry solid masses, usually of a flattened shape, consisting of powders incorporated with sugar and mucilage. In this way lozenges may be prepared from almost any medicine which the physician may deem advisable to administer in that form.

Troches of Magnesia. Take of magnesia, 4 ounces; gum arabic, one ounce; nutmeg, 1 drachm; sugar, 6 ounces; rub them separately into powder, then mix them with water, form them into a mass to be divided into troches, each weighing 10 grains.

SPIRITS.

421 ¶ *Spirits* are alcoholic solutions, obtained by distillation. The spirits are prepared chiefly from aromatic vegetable substances, the essential oils of which, rise with the vapor of alcohol, and condense with it in the receiver. It is proper that the aromatic should be macerated for some days with the alcohol, before submitted to distillation.

Compound spirits of lavender. Take of spirits of lavender, 3 pints; rosemary, 1 pint; cinnamon bruised, 1 ounce; cloves bruised, 2 drachms; nutmeg

bruised, $\frac{1}{2}$ ounce; red sanders, rasped 3 drachms; macerate for 14 days, and filter through paper. This is a delightful compound of spices, much employed as an adjuvant and corrigent for other medicines, and as a remedy for gastric weakness, nausea, flatulence, and general languor, or faintness. Dose, from 30 to 60 drops in syrup, or dropped on a lump of sugar.

OILS.

422 ¶ *Oils* are liquid or solid substances of a fat or unctuous nature, indissoluble in water, combustible with flame, volatile in different degrees, and leaving a greasy stain upon paper. They are divided into two classes, *fixed* and *volatile*. The fixed, or as they are termed *expressed* oils, exist in a greater or less proportion in various parts of the plants; are furnished for use exclusively by the fruit, and as a general rule, are most abundant in seeds. They are obtained either by submitting the bruised seeds to pressure, or by boiling in water, and skimming off the oil as it rises to the surface. The *volatile*, or as they are sometimes called, *distilled* oils, are usually obtained by distillation, and because these possess the properties of plants from which they are derived they are termed *essential*. The consistence of the *fixed* oils varies from that of tallow to perfect fluidity, but by far the greater number are liquid at ordinary temperature. When pure, they have little taste or smell, are lighter than water, sparingly soluble in alcohol. The *volatile* oils have a strong odor, hot and pungent taste, rise into vapor at ordinary temperatures, generally lighter than water, and very soluble in alcohol. They may be preserved

without change in small well stopped bottles, entirely filled with the oil, and excluded from the light.

Neat's foot oil is prepared from bones, generally by boiling in water the feet of the ox. *Sweet oil* is obtained by expressing the fruit of the *olive tree*. The *croton oil* is made by expression from the seeds of *croton tiglium*. *Castor oil* is procured by boiling or expressing the seeds of the *ricinus communis*, and the *oil of turpentine* is prepared by distillation of the juice of *terebinthinæ*. There is a variety of useful oils obtained both from the vegetable and animal kingdom.

A C I D S .

423 ¶ *Acids*, are those substances which impress upon the organs of taste a sharp or sour sensation. They are capable of uniting in definite proportions with alkalies, earths, and metallic oxides, with the effect of producing a combination in which the properties of its constituents are mutually destroyed. Such combinations are called *neutral salts*. Acids are an important class of chemical compounds, possessing the power of changing vegetable blues to red. Acids are derived from the mineral, animal, and vegetable kingdoms. They combine with water in almost every proportion. The medicinal properties of acids are generally stimulant, tonic, refrigerant, and in their concentrated state, highly escharotic. They are made by submitting an *acidifying base* to the action of *oxygen*. The *prussic acid* is obtained from the peach blossom, the *malic* from apples, and the *oxalic* from the sorrel.

ALKALIES.

424 ¶ *Alkalies* are those bodies which combine with acids so as to neutralize or impair their activity, and produce *salts*. They impress upon the organs of taste a sharp and sour sensation. Besides neutralizing acidity, and thereby giving birth to *salts*, they generally change the purple color of many vegetables to a green; the reds to a purple; and the yellows to a brown. They are powerful solvents or corrosives of animal matter, with which, as well as with oils in general, they combine so as to produce neutrality. They combine with water in every proportion, and also largely with alcohol. Potash, soda, lithia, and ammonia, are the *four* alkalies. There are also *four* alkaline earths. The alkalies are very useful medicinal agents, either in their simple, combined, or neutralized state.

ETHERS.

425 ¶ *Ethers* are peculiar, fragrant, sweetish, very volatile, and inflammable liquids, obtained by distillation from a mixture of alcohol and concentrated acid. Their composition varies with the acid employed in their formation. The sulphuric, nitric, and muriatic ethers are those mostly employed in medicine. Ethers, from their extreme inflammability, ought never to be decanted in the vicinity of flame. Hence it is prudent not to pour them out near a lighted candle. They should be kept in accurately stopped bottles, and in a cool place. The medical properties of ethers, when

taken internally, are antispasmodic, cordial, and stimulant; hence, in nervous affections, and internal debility, they have enjoyed some share of reputation. They are applied, occasionally, externally, in head ache, tooth ache, and other painful affections.

RESIN—PITCH—TAR.

426 ¶ *Resin* is used to denote solid, brittle, inodorous, and inflammable substances of vegetable origin. After the distillation of volatile oil from the turpentine, a resinous matter remains, which has obtained the name of *rosin*. Resins are fusible by moderate heat, insoluble in water, readily dissolved by alcohol, ether, and the essential oils. The resins are obtained chiefly from the vegetable kingdom, either by spontaneous exudation, or from incisions made into vegetables affording juices which contain this principle. In some plants the resin is deposited in a concrete state in the interstices of the wood, or other parts of the plant. *Pitch burgundy*, is prepared from the concrete juice of the *pinus abies*. *Hemlock pitch* from the *pinus canadensis*. The *tar* used in this country, is prepared from the wood of the various species of pine, particularly the *pinus palustris*. *Resin* is important as an ingredient of ointments and plasters.

GUMS.

427 ¶ *Gum-resins* are concrete, natural juices of plants, obtained by spontaneous exudation or incision, consisting of gum and resin, associated for the most part with more or less essential oil, and other extractive

matter. They seldom flow naturally from plants, but are mostly extracted, by incision, in the form of white, yellow, or red fluids, which dry, more or less, quickly. Water, alcohol, wine, or vinegar, dissolve them only in part, according to the proportion they contain, of resin or extract. They possess highly important medical properties, and are much used in the practice of physic. The principal gums used medicinally are, aloes, gamboge, and scammony, which are purgative. Myrrh, guaiacum, and ammoniacum, which are stimulant; galbanum, and asafoetida, which are antispasmodic; and arabic, and sweet gum, which are mostly used as mucilages.

BARKS.

428 ¶ *Barks* are the rind or covering of trees. They possess more or less medical virtues according to the nature of the plant from which they are derived. The *Peruvian*, or *cinchona* bark was discovered, about the middle of the seventeenth century, to be a very great *febrifuge* remedy. Its reputation has still increased, and is now regarded as the great *heroic samson* in intermittents, and most other forms of fever. It is strictly *anti-periodic*; and in all diseases attended with intermissions, remissions, and exacerbations, it may be regarded as the *sheet anchor* of our hopes. The medium dose of bark is 1 drachm, frequently repeated.

(VERMIFUGES.)

429 ¶ This includes that class of remedies which possess the power of destroying, dislodging, and expelling worms from the intestinal canal. 1st. *Pink root* is generally considered among the most powerful vermifuges. It is best prepared for use by taking $\frac{1}{2}$ ounce of the root and the same quantity of senna, to insure a purgative effect, boiling water 1 pint. Steep for 2 hours in a covered vessel, and strain. The dose of this infusion, for a child 2 or 3 years old, is a fluid ounce; for an adult, from 6 to 8 fluid ounces, repeated occasionally. 2nd. *Jerusalem oak, or worm seed*, is one of our most efficient remedies. It may be prepared by boiling an ounce of the fresh weed in a pint of milk, and given the same as pink; or the *seeds* may be administered in powder mixed with honey. Dose, for a child from 5 to 6 years old, $\frac{1}{8}$ of an ounce; or the *volatile oil* is, perhaps, more frequently given than the seeds. The dose for a child is from 6 to 12 drops, mixed with sugar. 3rd. *The cowhage down* certainly possesses powerful vermifuge properties. These spiculæ are thought to act mechanically, by penetrating the worms. Nearly a tea spoonful of this down may be mixed with honey or molasses, and given to a child once or twice daily, for several days, and then followed by a brisk cathartic. 4th. *Male fern* is also a valuable vermifuge, and has been used more especially for the expulsion of *tape worm*: a $\frac{1}{3}$ of an ounce of the powder may be given morning and evening for 1 or 2 days successively, and then followed by a full dose of

some active purgative. 5th. *Camphor* may be regarded among the most active and certain remedies for the expulsion and cure of worm affections; 3 or 4 grains may be dissolved in an ounce of water and sweetened with sugar, and given several times daily, and continued for several days. 6th. *The spirits of turpentine* is undoubtedly the most certain of all the means we possess of directly removing worms. The full dose (in which it may *safely* be given to children,) is $\frac{3}{4}$ of an ounce in milk, or mixed in water, either by means of mucilage or honey. It is better to give it in large than small doses. It then passes off quickly by the bowels, otherwise, it acts too much on the bladder. —

130 ¶ BOTANIC DEPARTMENT. (*Worm syrup.*) Take the most intense of the bitters, as worm-wood, tansy, bitter root, balmony, rue, meadow fern, &c., and make a decoction; strain, press, and boil down pretty strong; add as much loaf sugar, and give the patient freely this syrup. *Worm tea.* Make a decoction of jerusalem oak and peach blossoms, or bark; sweeten, strain, and boil down strong. Give freely to drink. *The pride of China*, is considered an efficient vermifuge. Boil 4 ounces of the bark in a pint of water. Sweeten, and give $\frac{1}{2}$ fluid ounce every 2 or 3 hours. *Salt*, given in purgative doses, has ever been considered a good remedy for worms. Male fern, cowhage, turpentine, and spigelia, have been much used, and in many cases are valuable vermifuges. The juice of the arbor vitæ, filings of tin, iron, &c., have been occasionally used.

R E C I P E .

430 ¶ This word *recipe*, denoted by the letter R, which literally means *take*, is a relic of the astronomical symbol of Jupiter. It being supposed, by the superstitious ancients, that ingredients owed their properties to the planetary influence under which they were collected. The word *misce*, signified by the letter M, when several ingredients have been directed, means *mix*. When herbs, flowers, or such like substances are ordered in a prescription, and M follows them, it signifies *manipulus*, a handful. F, or F. T, are abbreviations of *fiat*, or *fiant*, which means, let it, or them, be made. *Haust*, means a *draught*. A, or AA, are abbreviations of *ana*, which signifies after two or more ingredients have been mentioned, each ingredient should be taken. N, in prescriptions, is a contraction of *numero*, in number. P. is a contraction of *pugillus*, a pupil, or eighth part of a handful; and sometimes a contraction of *pars* or *partes*, a part, or parts. Q. P, is an abbreviation of *quantum placet*, as much as you please. Q. S., is a contraction for *quantum sufficit*, a sufficient quantity. Q. V., stands for *quantum viz*, as much as as you will. S. A., is the contraction for *secundum artum*, according to art; and SS, immediately following any quantity, imports *semis*, or half; and S., write. *Mist*, means *mistura*, a mixture. Mass, is used to signify *massa*, a mass. Coch., *cochlear*, a spoonful. Gtt., *gutta*, a drop. Pil., *pilula*, a pill; and pulv., *pulvis*, a powder. Thus we have given the signs and abbreviations which are of some importance to

be understood, as well as the other signs and characters used in the common arithmetics, in making up prescriptions.

— *Headache recipe.* Take morphine, 1-6 to 1-8 grain; quinine, from 2 to 4 grains; to be made into pills with extract of gentian. This will often relieve the pain in nervous headache immediately.

— *Recipe for ulcers on the legs.* Take from 4 to 8 grains of the *nitrate of silver*, (lunar caustic) to the ounce of water. Wash with a swab, the ulcerated part 3 or 4 times a day. The same wash will generally remove almost immediately, the swelling, redness, and ulceration in the fauces or back part of the roof of the mouth.

POISONS.

431 ¶ *Poisons* are those substances which, when applied externally, or taken into the human body, uniformly, effect such a derangement in the animal economy as to produce disease, may be defined a poison. It is extremely difficult, however, to give a definition of a poison, and the above is subject to great inaccuracy. Poisons are divided with respect to the kingdom to which they belong, into mineral, animal, vegetable, or ærial. Poisons, in general, are only deleterious in proportion to their *doses*, though some, as hydrophobia, and plague, are really so, in the smallest quantity. Others, again, are innocent when taken into the stomach; but which, when inspired by the lungs, or inserted into the flesh, immediately kill, as carbonic acid, and the poison of the viper. Poisons may enter the body, 1st., through the œsophagus alone, or with the food:

2nd, through the anus, with clysters: 3rd., through the nostrils. 4th, through the lungs, with the air: 5th, through the absorbents of the skin, either whole, ulcerated, cut or torn.

ANTIDOTES—COUNTER POISONS.

432 ¶ Antidotes, are medicines, which are capable of preventing the ill effects of a poison, or of counter-acting its fatal virulence. Without stopping to speak of the physiological action, or *modus operandi* of poisons, we are prepared to lay down a general plan of treatment. When a poisonous agent has, either through accident or design, found its way into the elementary canal; *three* important indications, are, if possible to be fulfilled: 1st, the immediate ejection of the poison from the body, by the operation of vomiting and purging. Whatever may be the nature of the poison, we should endeavor, with all possible expedition, to eject it from the body, and upon the promptness with which this is effected, the safety of the patient will generally depend. 1st., the fore finger should be thrust down the throat, at the same time 15 or 20 grains of *white* or *green vitriol* should be instantly given to excite active vomiting. 2nd, after all has been ejected which art can effect, we are forced, without delay, to the decomposition of any remaining portion, and the adoption of measures best calculated to obviate its absorption. 3rd, the last thing is to combat the consecutive fever, exhaustion, or stupefaction, if they should arise, and remove by appropriate treatment, all unpleasant effects.

TOXICOLOGICAL TABLE.

POISONS.	ANTIDOTES.
Arsenic and its preparations.....	{ Hydrated peroxide of iron. Drink large portions of sweetened lime water, and decoction of linseed and mallows.
Mercury.	{ Albumen or water holding the white of eggs in solution. Wheat flour paste not boiled.
Corrosive sublimate.	
Copper and its preparations, as blue vitriol and verdigris.....	{ White of eggs; iron filings.
Antimony and its preparations.....	{ Large solutions of nut-galls, peruvian bark, aided by strong tea, sugar and water.
Nitrate of silver, (<i>lunar caustic</i>).	{ Common salt in solution.
Gold, nitrate of.....	{ Sulphate of iron: green copperas.
Sulphate of zinc. (<i>white vitriol</i>).	{ White of eggs; milk.
Acids	{ Alkalies, and alkaline earths.
Sulphuric acid. }	{ Magnesia; carbonate of soda; potash; chalk; soap, &c.
Nitric acid. }	
Acetic acid. }	
Muriatic acid. }	
Phosphoric acid. }	
Hydrocyanic acid, (<i>prussic acid</i>).	{ Ammonia; liquid chlorine.
Oxalic acid.	{ Chalk; powdered limestone.
Carbonic acid, (<i>choke damp</i>).	{ Fresh air; oxygen.
Cautic alkalies, as potash; soda.	
Pearlash, }	{ Vinegar; lemon juice; oils.
Ley of ashes. }	
Ammonia, (<i>liquid</i>). }	{ Inhale ammonia cautiously
Sulphurous acid gas.	
Chlorine gas.....	{ Epsom and glauber salts.
Lead and all of its poisonous compounds.	{ Strong infusion of galls.
Opium and its compounds.....	{ Magnesia and water.
Phosphorus.....	{ Chlorine, iodine or bromine.
Nux Vomica.....	{ Inhale chlorine cautiously.
Sulphuretted Hydrogen.....	{ Chlorine iodine or bromine.
Jamestown or Jimson weed.....	
White Hellebore.....	{ Infusion of yellow bark.
Digitalis.	{ Chlorine, iodine or bromine.
Monk's hood, (<i>aconite</i>).	{ Wash in water of ammonia
Stings of insects.	{ Quinine and preparation of peruvian barks.
Febrific effluvia.....	
Serpents and rabid animals, bites of.....	{ Cut out the wound: apply a ligature, and cup the part.

CHAPTER II.—SECTION I.

433 ¶ By the term *Materia Medica* is understood a general class of substances both natural and artificial which are used in the cure of diseases, or those which are capable of making sanative impressions on the human system. It is a truth universally admitted, that the arm of physic has derived much additional power and increased energy from the resources which are furnished by the mixture and combination of medicinal bodies. It is often the case, that its sphere of influence may be thus more widely extended, and its powers so modified or changed as to give rise to a remedy of new powers. By contemplating the laws by which nature effects her wise purposes, we may learn to emulate her processes, and even in some cases, to correct and assist her operations. I am fully convinced that the combinations of nature, as exemplified in her more valuable remedies, are capable, if properly studied and understood, of suggesting many important hints for improving the arrangements of art; while art in return, may frequently supply the defects or extend the advantages of natural compounds. But this chapter will be mostly confined to the consideration of single articles of the *Materia Medica*.

Opium is the concentrated milky juice of the capsule, or head of the poppy. It is the chief stimulant narcotic now employed. In a moderate dose it increases the force, fullness, and frequency of the pulse; augments the temperature of the skin; invigorates the muscular system; quickens the senses, animates the

spirits, and gives energy to the intellectual faculties. Its operation, while thus extending to all parts of the system, is directed with peculiar force to the brain and nervous power, diminishing the sensibility, irritability, and mobility of those organs, and thereby inducing sleep, one of its peculiar effects. The principal indications which opium is capable of fulfilling are, supporting the actions of the system; allaying pain and irritation; relieving spasmodic action; inducing sleep, and checking morbidly increased secretion; hence there are many diseases in which it may be proper to use it.

Morphine, one of the medical properties of opium, is less disposed to constipate the bowels, and leave behind the other unpleasant effects. It is usually more acceptable to the irritated stomach, and will often be retained when opium would be rejected. There is no medicine of which the dose is more variable than opium, and its compounds, according to the habits of the patient, the nature of his complaint, or the indications to be fulfilled. The medium dose of opium is 1 grain; 1-6 of a grain of *morphine* is about equivalent to a grain of opium.

POKE ROOT, (*Phytolacca decandra*,) is an indigenous plant, growing abundantly in all parts of the United States. It is emetic, purgative, somewhat narcotic, and alterative. It has been much used in rheumatic cases; and the ointment made of the extract, is celebrated for its effects in piles, cancerous and other irritated sores. The dose of the powdered root, as an emetic, is from 10 to 30 grains; as an alterative, from 1 to 5 grains; the tincture, 1 fluid drachm; and the extract from 1 to 4 grains.

HENBANE, (*Hyoscyamus niger*,) is a biennial plant, growing in the northern and eastern sections of the United States. It ranks among the narcotics, and does not constipate like opium, but often proves laxative. Its anodyne and soporific effects are considerable. It is often prescribed in neuralgia and spasmodic affections, rheumatism, gout, hysteria, and various pectoral diseases, as catarrh, whooping cough, asthma, &c. Dose of the extract, from one to two grains, gradually increased.

FOXGLOVE, (*Digitalis purpurea*,) is a biennial plant, and is much used as a substitute for the *lancet*, to curb the action of the heart and arteries. It is also much praised in aneurism, diseases of the heart, hemorrhages, and has been prescribed in pulmonary consumption, asthma, mania, and dropsical complaints, it is said, with peculiar advantage. The dose of the powder is from 1 to 2 grains, 2 or 3 times a day, gradually increased till its effects are produced. *Tincture*, from 10 to 15 drops.

BUCHU LEAVES, (*Diosma crenata*,) grow at the Cape of Good Hope. They are gently stimulant, with a peculiar tendency to the urinary organs, producing an increased discharge of urine; hence they are valuable in ischuria, gravelly, and irritated states of the bladder. Dose, of the powdered leaves, from 20 to 30 grains, 2 or 3 times a day.

UVA URSI, is a low evergreen shrub, growing in the northern parts of America. The leaves are astringent and tonic, and have gained some reputation in diseases of the urinary organs. They are much used in gleet, leucorrhœa, incontinence of urine, and diabetes. The

dose is from 25 to 60 grains. The decoction is frequently used.

SENNA, (*Cassia senna*,) is a small under shrub, growing in many parts of the world, and one species in the United States. It is a prompt and efficient purgative; may be used in most cases where the object is to evacuate the bowels, and may be beneficially combined with salts. Dose, of the leaves, from $\frac{1}{2}$ to 1 drachm, steeped in water.

CALOMEL, (*Hydrargyri chloridum mite*,) is a cathartic, anthelmintic, alterant, and is capable of fulfilling several other indications in the cure of diseases. As a purgative, calomel owes its chief value to its tendency to the liver, the secretory functions of which it powerfully stimulates. It has long been regarded as an active agent in the cure of *bilious* and *glandular* diseases. Its action is more or less terminated on the secretory organs. It is frequently used as an anthelmintic, and in small doses it is decidedly alterative. The dose, as a cathartic, is from 10 to 15 grains, and as an alterative, from $\frac{1}{2}$ to 1 grain. "The *blue pills* are among the mildest of the mercurial preparations, being less liable than most of the others to act upon the bowels, and exercising the peculiar influence of the remedy upon the system with less general irritation. They are much employed for producing the sialogogue and alterative action of mercury. For the former purpose, 1 pill may be given 2 or 3 times a day; and if the case is urgent, the dose may be increased."

GAMBOGE, (*Gambogia*,) is a gum-resin, brought from Siam and Cochin-china. It is a powerful drastic, hydragogue cathartic, very apt to produce nausea and vomiting when given in the full dose. It is generally

prescribed in dropsy, tapeworm, constipation, &c., and most frequently it is combined with other cathartics in the form of pills. Dose from 3 to 6 grains.

COLOCYNTH, (*Colocynthis*) is a *bitter cucumber* growing in Turkey. The pulp of colocynth is a drastic hydragogue cathartic, operating with considerable energy. The *compound extract of colocynth* combined with calomel, extract of jalap and gamboge, forms a highly efficient and safe cathartic in obstinate costiveness, and torpidity of the liver. The dose of colocynth, is from 5 to 10 grains.

SCAMMONY, (*Scammonium*) is a gum-resin, which is obtained from the juice of a plant in Syria. There are two species of scammony, the *aleppo* and *smyrna*. The *aleppo* is much the best. It is an energetic cathartic, much used in torpid states of the liver and bowels, seldom administered, except in combination with other cathartics. The dose is from 5 to 10 grains.

JALAP, (*Jalapa*) is a plant growing in Mexico. It is an active cathartic, operating briskly upon the bowels, producing copious watery stools. It is frequently combined with cream of tartar, forming a hydragogue cathartic, or with calomel, so as to effect the biliary organs. Dose, from 15 to 20 grains.

ALOES, (*Aloe*) is an extractive matter obtained from a plant growing mostly in Africa. There are several species brought into market. The socotrine is probably the best. Aloes is a cathartic, operating very slowly but certainly, and having a peculiar affinity for the large intestines. The medium dose, is 10 grains.

RHUBARB, (*Rheum*) is a herbaceous root, mostly obtained from Russia. It combines an astringent

power with a cathartic. It is also tonic and stomachic; invigorating in small doses, the powers of digestion. It is more frequently given in bowel complaints, and diseases of children. Dose of the powder, is from 20 to 30 grains.

QUININE, is regarded as the anti periodic, or samson in the cure of all paroxysmal diseases. Its wonderful *anti-intermittent* properties are displayed in *agues* and *fevers*, not surpassed by any other agent known to the profession. It is less apt than the bark to nauseate and oppress the stomach, consequently, may be substituted for that remedy in all diseases to which the latter is applicable: 12 grains of quinine is equivalent to about an ounce of good bark. The dose varies exceedingly, according to the circumstances of the patient, and the object to be accomplished. As a *tonic*, simply, a grain may be given 3 or 4 times a day, or more frequently in acute cases. In *agues* and *fevers*, from 12 to 20 grains should be given between the paroxysms or chills, in divided doses.

VALERIAN (*Valeriana officinalis*) is a handsome herbaceous plant, with a perennial root, growing in Europe, and one species in the United States. It is gently stimulant, with an especial direction to the nervous system. It has been regarded beneficial in nervous affections, as hysteria, epilepsy and low forms of fever. The dose is from 30 to 90 grains. The *tincture* is the best form of using it.

IPECAC (*Ipecacuanha*) is a small shrubby plant, growing in South America. It is, in large doses, emetic, in smaller, diaphoretic and expectorant. As an emetic, it is mild but tolerably certain in its operation;

and is peculiarly adapted, by its mildness and efficacy, to all cases in which the object is merely to evacuate the stomach, or where a gentle impression only is desired. It is also valuable in dysentery and other bowel complaints. The dose is about 20 grains repeated at intervals, until it operates. As a diaphoretic and alterative, it may be given in much smaller doses.

EMETIC TARTAR (*Tartrate of antimony and potassa*) is an emetic, diaphoretic, expectorant alterative, and is capable of fulfilling many other indications in diseases. In full doses, it acts as an emetic, and as such is characterized by certainty, strength, and permanency of operation. It is certainly one of the most useful agents in a long train of febrile and inflammatory complaints, in curbing the morbid action after local and general bleeding has partially subdued the excessive excitement. Tartar emetic is almost always given in solution, and in an amount which varies according to the indications to be fulfilled. As a *sedative* or *contra-stimulant*, it may be given from 1-16 to 1-8 of a grain; as a sudorific from 1-2 to 1 grain; and as an emetic, from 3 to 7 grains, in divided doses.

CANELLA ALBA is an erect tree growing in the West Indies. The bark is a warm aromatic stimulant and tonic, much used in debility, and is mostly prescribed in combination with bitter and purgative medicines.

SUGAR OF LEAD (*Plumbi acetat*) is a white salt, and in medicinal doses, is a powerful astringent and sedative, and in large ones an irritant poison. It is much given to check morbid discharges and hæmorrhages from the uterus, lungs, bowels, and other organs. It is also commonly applied externally to inflamed parts

and surfaces. Dose from 1 to 3 grains, frequently repeated.

BALSAM OF COPAIVA (*Copaiba*) is a juice which exudes from an elegant tree in South America. It is gently stimulant, diuretic, laxative, and in very large doses, purgative. It is valuable in diseases of the mucous membrane, as whites, gleet, dysentery, piles, and chronic catarrh. Dose from 20 to 30 grains gradually increased.

MEADOW SAFFRON (*Colchicum*) is a bulbous plant, growing in Europe. It acts as a sedative, diuretic, and sudorific. It is much used in gout, *rheumatism*, and sometimes in dropsies. Dose of the dried bulb is from 2 to 8 grains. The wine of meadow saffron is mostly used; dose, 1 to 2 fluid drachms.

TURPENTINE. (*Terebinthina*.) The *essentia loil* is most commonly used, which is stimulant, diuretic, anthelmintic, and in large doses laxative. It is valuable in colics, rheumatic pains and worms. Externally applied, it often affords relief in painful affections, wounds, bruises, &c. Dose varies according to its *intentions*, from a few drops to 1 or 2 ounces.

WHITE VITRIOL (*Zinci sulphas*) is a white transparent salt, possessing tonic, astringent, and in large doses, prompt emetic powers. It is mostly used as an emetic, where *poisons* have been received into the stomach, and in some spasmodic diseases, as St. Vitus' dance, epilepsy, and also as a *styptic*. The dose as an emetic, is from 10 to 30 grains; as a tonic, from 1 to 2 grains.

CHAPTER III.—SECTION I.

A COURSE OF MEDICINE.

131 ¶ WHAT is meant by a course of medicine? A process or continuation of means for the purpose of changing the morbid action of the system, and re-establishing a healthy state of the animal tissues. The laws of the vital system are such as to require *relaxation*, *contraction*, *stimulation*, and *nutrition*: surely the courses of medicine should correspond with the established laws of nature. Hence we need a *course* to *relax* a surface, organ, function, or the whole system in cases of constriction, local and general fevers. 2nd, a *course* to *contract*, *tone*, and *give strength* to the various parts, structures, and tissues of the animal system. 3rd, a *course* to *stimulate*, *rouse*, and *give energy* to cold, debilitated and sluggish parts, or organs of the animal economy. 4th, a *course* of *nutrition* to *furnish* the system with the means by which it recovers its strength or equal and universal action, and builds up its wastes. For the purpose of better understanding this subject and adopting these courses to practice, we shall name them: *a course in constriction*, *a course in relaxation*, *a course in local excitement*, and *a course in lesions*. These *courses* of medicine must vary according to the extent of the disease and the nature of the malady. If one organ or function is affected, they must be more *restricted*: if two or more, they must be more *general*: if the disorder is chronic, and of long standing, they must be more *slow*: if

acute, and rapid in its progress, they must be pursued with *greater energy*. *Age, sex, temperament, habit, and constitutional peculiarities*, must be duly considered in the administration of a course of medicine. If a disease can be moved at all, the faster the *courses* are repeated, provided the system can bear them, the sooner the disease will yield and health be restored. In all cases then, the honest physician should do his utmost, and his labor will mostly be crowned with success. Many a pretended learner has been known to smile at the idea of a *course of medicine*, and in the next breath talk of a *mercurial* and *alterative course*. Truly, no one should condemn in others what he would practice himself. Great men and liberal minds are less prejudiced against a system which they have never investigated than those of limited knowledge and stereotyped prejudices. A *course of medicine* comprises several elementary principles in the healing art: 1st, to equalize the nervous and circulating fluids, and change the morbid action of the system; 2nd, to rouse the excretory functions and carry off impeding matter; 3rd, to excite the secretory organs and establish a healthy state of the animal functions.

How can this be done? This is the great bone of contention. This is the grand point on which the learned and unlearned, the wise and the unwise, honestly differ. To what tribunal should we appeal? not, surely, to the instructed in either department, for they will most assuredly decide in favor of their *own system*. Let us then go to the bed side, and there freely, and honestly test the important matter, and the claims of each other's pretensions; and let each individual think, reason, and determine this matter for himself,

as he does in all great matters of religion, politics, and moral government. I shall still continue to lay before the reader the true, essential, and most important ways and means made use of, in the *botanic*, as well as the *regular* department, for removing disease from the human system. Should any person suppose that the compiler has not fairly, fully, and closely set before him *both* systems of practice, in their native purity, he has only to refer to the standard and most approved authors and journals, for the proof of this assertion. These means, in the *botanic* system, consist of *courses* of medicine, and such mild agents given between, as operate in harmony with the laws of the animal economy.

P R E P A R A T O R Y .

Before entering upon a course of medicine the system must be properly prepared, and other preliminary steps taken before you are ready for the operation. This will depend much upon the course you intend to give, whether it be stimulating or relaxing. If the bowels be either constipated, obstructed, or much relaxed, injections of composition, slippery-elm, and a little lobelia should be administered before getting over the steam. The patient should drink freely of composition, with a little cayenne prepared with molasses or honey, in order to raise the action of the system. He should then take some lobelia tea, and drink largely of pennyroyal, sage, catnip, or peppermint, before and during the process of steaming. Put into the fire a dozen *half* bricks, or as many rocks about their size, or if you have a steam-pipe and a steam-cock connected

with a boiler, you will not need the bricks, as it is far easier to use or to regulate.

Steaming. "Put two strips of boards, about two inches wide, across the top of the largest wash tub about the house, in such a manner that you can set an open flag or split-bottomed chair upon them with the back feet directly over the edge of the tub. Put into the tub a common wash bason, and then place the patient upon the chair, covered only with a blanket pinned around the chair and tub so as to exclude all the air except from the face. As soon as the patient is seated, open the blanket a little at the bottom and pour into the bason from a tea kettle about 2 or 3 quarts of boiling water. Now give the patient a little more composition tea, and take, with the tongs, a brick or rock from the fire, put it partly into the water, but still hold it fast (resting the tongs on the edge of the tub) till it is so much cooled by gradual depression into the water that it will not make too much steam, when you may let it entirely down into the bason and leave it there till it ceases to make enough, when you should take it out of the bason and leave it in the tub on the side where the patient feels the coldest." Change the bricks as often as is necessary to keep up a sufficient quantity of steam, and give freely warm teas; a little cayenne if necessary; and should the patient be sick at the stomach, dash a little cold water suddenly in the face and on the breast, and he will soon vomit and be relieved. If at any time faintness or weakness should occur, lower the steam by removing the stone, opening the blanket about the neck, and dash the face and breast with cold water; and if faintness still continues, let an assistant pull the chair over backwards so

that the head of the patient may rest in the lap of the assistant, who is seated in a chair behind. Give him warm teas; and when he has recovered somewhat, raise him up and continue to apply the steam until he is completely warm and perspires freely. During the latter part of the steaming let an assistant wash the patient completely over with warm soap suds and a cloth, after which give more teas and raise the steam pretty high; then he may be dashed with cool water, rubbed dry, and his under clothes put on, and helped to bed. His feet should be kept warm with a hot iron or a jug of boiling water; now give an emetic of lobelia in combination with stimulating teas, and if the case demands, for sometime give small doses of lobelia to relax and nauseate the system. If his stomach cramps give more stimulants; if it burns give a little sweet milk or milk porridge: if there is acidity of the stomach give carbonate of soda, pearlash or saleratus. Should there be profuse and continued perspiration, rub the surface dry. Should the stomach refuse to settle, give an injection. If one course does not appear to give essential relief, after 2 or 3 hours, give another. Keep up the action, and advantage gained, by such other mild agents and remedies as experience has proved best adapted to remove the complaint under which the patient labors. These therapeutic agents should be promptly administered between the courses. In this way, and by these prompt and energetic means you can overcome the worst diseases, restore an equilibrium in the system, establish a healthy action in the structures, functions, and organs, and, as it were, snatch from the jaws of death, and save from an untimely

grave, many a victim, doomed speedily to fall by the ruthless hand of the destroyer.

A COURSE IN CONSTRICTION.

Where there is a general burning fever over the system, and a sense of inward heat and thirst, give warm bland fluids of the sweating kind: as sage, catnip, pennyroyal, boneset, &c., and injections of lobelia and slippery elm; dash water, or sponge the surface of the body with cold water, or weak ley of an agreeable temperature, till the excessive heat is evaporated, and the surface becomes relaxed. The patient should then be puked with lobelia, and if the bowels are constipated, use injections; after which, he should be thoroughly steamed, using at the same time, sweating and relaxing teas, (without stimulants of cayenne or composition) and when done, rubbed completely dry before putting on his dress. If the fever does not subside when the perspiration is free, it shows that there is internal obstructions in some of the vital organs or structures of the stomach, bowels, liver, lungs, or brain, in which case lobelia must be given in small doses frequently repeated, till the arterial action is reduced, and the pulse becomes slow and natural. The system may then be purged; refrigerent and sweating agents freely given. If, at any time within two, four, eight, sixteen or twenty-four hours after, the disease does not yield, or a disposition remains for its rise again, the course must be thoroughly pursued again, and again, until you completely remove all obstructions, cause equilibrium of vital action, restore the secretions, and excretions,

and bring about a healthy state of the parts, functions or structures of the animal economy.

A COURSE IN RELAXATION.

“In all these and similar cases, the course needs to be stimulating; and tonic composition is the best tea through the whole course, and the system should be well warmed by this, and by injections, and also by steaming before the emetic is given. If there is great sluggishness, cayenne should be added occasionally. The emetic should not be given till the stomach is pretty full of tea, and then given in a strong dose, and not often repeated, as small doses often repeated, keeps the system prostrate. When the patient is sick and does not vomit, and you think he has fluids enough, say a pint, or more within him, rub his spine up and down with your bare hand, and request him to contract his diaphragm and abdominal muscles, as if he wished to shorten his waistbands. This will produce a real scientific vomit. Persons in this condition are the most easily thrown into what are called “the alarming symptoms,” or a temporary relaxation beyond the power of reaction. It is produced by giving frequent doses of lobelia, under the false impression that this article is the principle agent in producing the act which we call vomiting; whereas, it is the reaction of the system against its relaxing influence, that produces the vomiting. The patient in these cases should be made to vomit till the stomach is clear, and perspire, till the emunctories, or pores of the skin are free; then he should be well toned at the surface, by rubbing, and if necessary, by occasional applications of cayenne, and

vinegar, to the surface; cayenne and bitters, should also be given internally, 2 or 3 times a day, until the system has recovered its tone. But proper exercise, and a moderate quantity of good food, are depended on for the cure."—(*Curtis.*)

A COURSE IN LOCAL EXCITEMENT.

In local inflammation, or fever, the part should be soothed as much as possible, by absorbing away the excessive heat, restoring an equilibrium of vital action, and relaxing the irritated organs, so that they may rid themselves of their morbid contents. It is on this principle that we apply evaporating lotions, and stimulate by friction, the parts affected. It will also be found in these cases, that the other organs and functions of the system, are not fully performing their parts in the great business of physiological action, and they must be made to do their duty. Each organ must do its own part, and faithfully discharge its own office in relation to itself, and the different parts with which it stands sympathetically connected. "For example, when the bowels are constipated, the surface is evaporating too much of the moisture of the body, and the former should be better toned. When the bowels are relaxed, the surface evaporates too little of the moisture, and should be opened, and stimulated to action. I have never known the promotion of a proper action of the surface fail to correct any irregularity of the bowels." So a free action of the surface relieves inflammation of the lungs, stomach, bowels, liver, and in fact, any other of the internal organs. To put into equal and proper action, all the other organs of

the body, and maintain that action until an equilibrium is affected, is indispensably necessary to the relief of those affected with irritation and inflammation. This is the great and grand point in the treatment of diseases, and those agents, and means best adapted for that purpose, will truly effect the most good. To be successful, then, we should truly watch the process of nature, and travel hand in hand, with her. If a morbid, febrile, or mechanical agent or poison, has been received into the system, and by a law of affinity, has spent its deleterious effects upon some organ or part which is least able to bear up under the injury, or where the vital resistance is least, we should direct our energies to that point, and discharge the irritating agent from the system, whether it be animal, vegetable, or mineral, or the specific causes of measles, small pox, scarlet fever, &c., by the best means which nature and experience suggest through the instrumentality of nature's outlets. This should be the polar star, and sheet anchor of our hopes. Hence also in general, local, and eruptive fevers, we should keep up the action, and cleaning process, with suitable emetics, cathartics, sudorifics, and bathing, till the cause is entirely removed from the system, and equilibrium of vital action is established; and then by proper nutrition and stimulation, the system will return to a state of perfect health.

COURSE IN LESIONS.

Besides the local excitements, there are local lesions which require some degree of modification in their

treatment. These are very numerous, and of different kinds.

1st. *Wounds*. These lesions may be occasioned by different agents. If *incised*, or made by cutting instruments, they require to be brought together and secured by stitches, adhesive plaster, and bandages. If *contused* wounds, or made by heavy bodies, disorganizing the structure of a part, they require fomentations and emollient poultices, to hasten the suppurative process. If *punctured* wounds, they mostly require to be enlarged with a lancet, and then poulticed with some stimulating and escharotic articles. *Gun-shot* wounds generally require emollient and antiseptic plasters and poultices. *Poisoned* wounds, when occasioned by the bite of a rabid animal, should have the part sucked, excised, well washed, and cauterized. Lesions occasioned by *fractured* bones, require to have the broken ends brought together, and properly secured by splints, bandages, and evaporating lotions used on them to allay the local excitement. Lesions produced by *dislocated* bones, (if large and difficult to set) generally require the relaxing effect of the vapor bath, lobelia administered by the mouth, and in the form of injections; after which, they may be returned to their proper place by suitable extension.

2nd. *Abscesses and sores*. These, if large, require general courses of medicine to cleanse the blood; after which, poulticed with materials suited to their condition. If they are hot, inflamed and painful, the poultices should be cooling, relaxing, and moistening. If they are cold, clammy, and full of corruption, the poultices should be stimulating and relaxing. If proud flesh should appear in the sore, it should be touched

with caustic potash, blood root, clover, or wood sorrel plaster, and then poulticed as before. When the abscess is thoroughly cleansed, so that it discharges no sanguineous matter, it may be healed with sweet gum plaster, elder salve, or fir balsam.

3rd. *Cancers and wens*. These generally require the application of the extract of wood sorrel, till they suppurate, and are completely destroyed; then they should be poulticed until they entirely heal. Cancers will often suppurate in part, and leave other parts unmoved. Care should be taken to have the ulcerative fibres entirely removed before the parts are permanently healed.

4th. *Scrofula*. These cases in the first place, require courses until the morbid matter is removed from the system, and then alteratives, tonics, and stimulants, to change the action, and restore a healthy tone to the diseased organs.

BATHING.

No person who is capable of contemplating the organization of man, his wonderful adaptation to the elements around, but can see the utility of bathing. The skin is evidently exposed to more disturbing elements than any other part of the body. Being a secreting and excreting surface, it is often the vehicle through which disease pervades every function, organ, and structure of the human system. *Cold* is perhaps the most common and frequent of all the remote causes of disease—as a *morbific* and *febrific* cause, it plays a very important part. Its first effects are, torpor of the cutaneous exhalents and a retreat of blood from the surface to the internal organs; vital accumulation takes

place; recrementitious perspirable matter is retained; the blood is surcharged with offensive and irritating substances, and hence the whole system becomes contaminated. Hence, bathing, relaxing and keeping up an action on the surface, will often restore the original breach, and bring back the disordered actions to a healthy state.

WARM BATHING. When the skin is dry, cold, lax, and clammy, it has lost its tone or tension. The warm bath will stimulate and arouse it to a natural action and enable it to hold the heat of the body in quantities sufficient to keep the whole warm. In most cases of disease, the skin is constricted, and will not let off the internal heat. Friction and bathing will often open the pores, and take off the tension and accumulation, and restore an equilibrium on the surface. In all that class of cutaneous diseases where the skin is rough, scaly, parched, or clammy, the warm bath will be advisable. It may be medicated with such agents as exert a specific power and control over these capillary maladies.

VAPOR BATH. Steam, whether considered in a medical, domestic, or national point of view, is truly one of the great benefactors of mankind. Understood as it is in the medical profession, it is capable, with other auxiliary relaxants, of lessening the vital energies, and bringing the stoutest constitution to the energies of a child, and thus holding down the inflammatory action and strength of the individual, as a strong man would hold a weak one, without injury to the vital tissues, and letting up whenever necessary, or when an equilibrium is fully established. It is not so with most of the relaxants made use of by the medical profession; for, in lessening the inflammatory action they lessen the vital

principle, which is necessary to the strength and support of the system, during the existence of disease and which cannot be replaced or imparted at a time when the patient most needs it.

COLD BATHING. Nothing perhaps in the science of medicine contributes more to the growth, vigor, and firmness of childhood and youth, or to the activity and permanent health of manhood, than daily immersion in cold water. It steels the frame against changes of weather, against the impressions of cold or moisture, and many other external injuries. It is of course the best preventive of all those diseases which arise from a relaxed skin, obstructed perspiration, and nervous weakness. It is a powerful agent in fevers of a high grade; and in most of the congestive types, will speedily bring on reaction. In congestion to the head, a stream of water upon that part will quickly determine the circulation to other parts and disengage the encephalic organ.

SEA BATHING also is a tonic, bracer, and a powerful detergent and purifier, especially in scrofulous complaints, attended with a relaxation of the fibres and a strong disposition to languor and indolence. Whatever may be said in favor of these great *preventive* and *curative means*, men have their habits and prejudices, and therefore few will be induced to enjoy the blessings which would undoubtedly arise from these curative agents.

132 ¶ **INDIAN TURNIP** (*Aurum triphyllum*) is a perennial, tuberous plant, growing in damp woods throughout the United States. It is stimulant, expectorant and carminative, and is beneficial for cramp in

the stomach, asthma, and chronic catarrh. Dose, 10 grains, occasionally repeated.

MAY-APPLE (*Podophyllum*) is an indigenous, herbaceous plant, and the root is an active and certain cathartic, producing copious liquid discharges, without any unpleasant effects. Its operation resembles jalap; and it may be given when you want an active discharge from the bowels. Dose, 20 grains.

PENNYROYAL (*Hedoma pulegiodes*) is an indigenous annual plant, possessing relaxant, stimulant and diaphoretic properties, and promoting a free discharge of all the secretions and excretions.

PEPPERMINT (*Mentha piperita*) is a perennial, herbaceous plant. It is a very grateful, aromatic, relaxant, stimulant and diaphoretic, much used to change the secretions.

BITTER-ROOT—INDIAN HEMP (*Apocynum Cinnabinum*) is an indigenous, perennial, herbaceous plant, growing in all parts of the United States, and possessing emetic, cathartic and some tonic powers. It is frequently used in dropsies and constipations alone; but more frequently it is combined with other alteratives. Dose, from 15 to 30 grains.

GOLDEN SEAL (*Hydrastis Canadensis*) is an herbaceous plant, with a perennial root, growing in almost every part of the United States. It is a bitter tonic, and slightly laxative; much used as a stomachic bitter, to aid the powers of digestion. Dose, a tea spoonful of the powder.

LADIES' SLIPPER—UMBIL (*Cypripedium peubescens*) is an herbaceous plant growing in most parts of the United States. There are several species. It is an excellent antispasmodic, operating with great certainty

upon the nervous system, allaying spasms and nervous irritability: hence it is often called *nervine*. The usual dose is from half, to a teaspoonful of the powdered root.

BLACK-ROOT (*Septandra Virginica*) has a perennial root, with an herbaceous stem, growing throughout the United States. It is an active cathartic, and in large doses emetic. It is generally used in obstinate constipation, but more frequently combined with other alterants. Dose of the powdered root, from 20 to 30 grains.

BAYBERRY—MYRTLE (*Myrica Cerifera*) is a shrub from two to five feet high, bearing berries which yield wax, growing in many parts of this country. It is a powerful stimulant and slightly mucilaginous, and is very useful in weak debilitated states of the system. It is generally combined with other stimulants. Dose, a tea spoonful of the powdered bark of the root.

BALMONY—BITTER-HERB (*Chelone glabra*) is a small, bitter plant, growing in most parts of this country. It is tonic, anthilmintic, and alterant. It is mostly combined with other restoratives. The dose is from 1 to 2 teaspoonsful, either alone or added to other articles.

PRICKLY ASH (*Xanthoxylum*) is a shrub growing throughout the United States. It is a warm stimulant, with a tendency to diaphoresis. It is often used with other bitters; and as a remedy in chronic rheumatism, it enjoys considerable reputation. The dose is a tea spoonful of the powdered bark.

BUTTERFLY-WEED—PLEURISY-ROOT (*Asclepias tuberosa*) is a perennial plant found in every part of the United States. It is diaphoretic, expectorant, and slightly loosening. It is exceedingly valuable in pleurisy, diseases of the lungs, bowels, &c. The root may

be given in substance or decoction. Dose, 25 to 60 grains.

WHITE POND LILY, (*Nymphaea odorata*) is an herbaceous, perennial and indigenous plant, growing in water ponds and borders of streams. It is very astringent and bitter, much used for poultices in inflamed tumors and old sores, and when put into syrups, restrains *morbid discharges*.

WOOD SORREL (*Acetosella*) is a small herbaceous plant. It is refrigerant, and the *juice* dried to a solid, is escharotic and much used as a remedy in *cancer* and malignant sores. The extract to be used as a plaster.

BITTER-SWEET, (*Solanum dulcamara*) is an indigenous shrub, possessing rather narcotic and alterant properties, and mostly used in scaly cutaneous diseases, often with good effect; and the bark of the root, with camomile and wormwood, makes an ointment of great value, in sprains, bruises, &c.

VIRGINIA SNAKE-ROOT (*Aristolochia Serpentaria*) is an herbaceous plant, with a perennial root, abounding throughout the United States. It is a stimulant tonic, acting also as a diaphoretic, very useful in eruptive diseases and low forms of fever. The dose of the powdered root from 10 to 20 grains; mostly used as an infusion.

WILD GINGER—CANADA SNAKE-ROOT, (*Asarum Canadense*) is a small indigenous herb. It is an aromatic, stimulant, tonic, with diaphoretic properties, and much used to raise an action in the system and promote perspiration.

COHOSH—PAPOOSE-ROOT, (*Caulophyllum Thalic-troides*) is an herbaceous plant, growing in the western States. It is an aromatic tonic and antispasmodic, and

is much used to relax the animal fibre in spasmodic diseases; and is considered a valuable *antidote* to animal poisons. Dose, a tea spoonful of the powdered root.

SWAMP DOGWOOD (*Cornus Sericea*) is an indigenous shrub, growing in moist woods and along streams. It is a warm, stimulant tonic, and is much used in agues and fevers, and debilitated states of the system. Dose of the powdered bark from 2 to 3 tea spoonsful.

WINTER-GREEN--PIPSISSEWA (*Chimaphila maculata*) is a small evergreen plant, found in most parts of the United States. It is diuretic, tonic, and astringent; and is frequently given in debilitated states of the system, attended with dropsical complaints; and applied as poultices to ill conditioned ulcers and cutaneous eruptions.

SUMACH, (*Rhus glabrum*) is an indigenous shrub. The bark, leaves, and berries, are astringent, cooling, and healing; and are much used in disorders of the bowels, canker, and is considered almost as a specific in the sore mouth, attending inordinate mercurial salivation.

SPIKENARD, (*Aralia racemosa*) is an indigenous perennial plant, possessing stimulant, diaphoretic properties, and is much used in catarrhs, rheumatic, and cutaneous affections.

QUEEN OF THE MEADOW, GRAVEL ROOT, (*Eupatorium purpureum*) is a perennial, herbaceous plant, growing on low ground, five feet high, hollow stem, of a purple color. The root is stimulant and diuretic; much used in gravel, and other urinary diseases.

GINSENG, (*Panax Quinquefolium*) is a common native plant, possessing demulcent and soothing properties, and is occasionally used in nervous affections.

SYSTEMATIC ARRANGEMENT OF DISEASES,

TO WHICH IS ADDED THE COMMON AND MEDICAL NAMES.

FEVERS—*FEBRES*.Intermittent and ague and fever—*Febres intermittens*.

1. Quotidian—*Quotidiana*; paroxysms coming on every 24 hours.
2. Tertian—*Tertiana*; paroxysms coming on every 48 hours.
3. Quartan—*Quartana*; paroxysms coming on every 72 hours.

Simple remittent fever—*Febres remittens*.Inflammatory fever—*Synocha*.Congestive fever—*Febris congestitia*.Typhus fever—*Typhus mitior*.Hectic fever—*Hectica*.Milk fever, trembles—*Febris venenata*.Yellow fever—*Typhus icterodes*.ERUPTIVE FEVERS—*EXANTHEMATICA*.Small-pox—*Variola*.

1. Distinct.
2. Confluent.

Varioloid—*Variola*; modified small-pox.Cow or kine-pox—*Variolæ vaccinae*.Measles—*Rubeola* or *morbilli*.Scarlet fever—*Scarlatina*.St Anthony's fire—*Erysipelas* or black tongue.Chicken pox—*Varicella*.Glanders—*Equinia*.Plague—*Pestis*.ARTHRITIC FEVERS—*ARTHRITIS*.Rheumatism—*Rheumatismus*.

1. Sciatica.
2. Lumbago.

Gout—*Podagra*.Dengue—*Dingee*.INFLAMMATIONS—*PHLEGMASIA*.Phlegmon—*Phlegmonous inflammation*.Erysipelas—*Erysipelatous inflammation*.

DISEASES OF THE BRAIN.

Inflammation of the brain and its membranes—*Phrenitis*.

DISEASES OF THE EYE.

Inflammation of the eye—*Ophthalmia*.

1. Purulent. 2. Strumous.

Dimness of sight—*Gutta serena or amaurosis*.

Night-blindness—*Nyctalopia*.

DISEASES OF THE LIVER.

Inflammation of the liver—*Hepatitis*.

Jaundice—*Icterus*.

DISEASES OF THE LUNGS.

Inflammation of the lungs—*Pneumonia*.

Pleurisy—*Pleuritis*.

Bronchial inflammation—*Bronchitis*.

Pulmonary consumption—*Phthisis pulmonalis*.

1. Catarrhal. 2. Tubercular.

Difficult respiration—*Asthma or Phthisic*.

DISEASES OF THE STOMACH.

Inflammation of the stomach—*Gastritis*.

Indigestion—*Dyspepsia*.

Pain in the stomach—*Gastrodynia*.

Vomiting—*Vomitus*.

Heartburn—*Gastralgia*.

Water-brash—*Pyrosis*.

DISEASES OF THE INTESTINES.

Inflammation of the intestines—*Enteritis*.

Costiveness—*Obstipatio*.

Dysentery—*Dysenteria*.

Purging—*Diarrhœa*.

Puking and purging—*Cholera morbus*.

Asiatic cholera—*Cholera Asiatica*.

Vomiting and purging of infants—*Cholera infantum*.

Colic—*Colica*.

Flatulent colic—*Colica flatulenta*.

Bilious colic—*Colica biliosa*.

Painter's or Devonshire colic—*Colica pictorum*.

Piles—*Hæmorrhoids*.

Falling of the fundament—*Prolapsus ani*.

INFLAMMATION OF THE PERITONEUM.

Child-bed fever—*Puerperal peritonitis*.

DISEASES OF THE MOUTH, THROAT, AND NECK.

Canker of the mouth—*Aphthæ* or Thrush.

Quinsey or sore throat—*Cynanche tonsillaris*.

Croup or hives—*Cynanche trachealis*.

Mumps—*Cynanche parotidæa*.

Derbyshire neck—*Bronchocele* or *Goitre*.

DISEASES OF THE KIDNEYS AND BLADDER.

Inflammation of the kidneys—*Nephritis*.

“ “ bladder—*Cystitis*.

Suppression of urine—*Ischuria dysuria*.

Incontinency of urine—*Eneuresis*.

Immoderate flow of urine—*Diabetis*.

1. *Insepidus*. 2. *Meletus*.

Painful affections of the bladder—*Dysuria*.

Stone in bladder and gravel—*Calculus*.

DISEASES OF THE SKIN.

Inflammation of the skin—*Erythema*.

Tetter—*Herpes*.

Humid tetter or running scall—*Eczema*.

Itch—*Scabies* or *psora*.

Carbuncle—*Anthrax*.

Scald-head—*Tinea capitis* or *porrigo*.

Nettle-rash—*Urticaria*.

Cutaneous purple spots—*Perpura*.

Yaws—*Frambesia*.

Miliary fever—*Miliaris*.

Vesicular eruption—*Pemphigus*.

Leprosy—*Lepa*.

Ring-worm—*Impetigo*.

CONVULSIVE DISEASES.

Convulsive laughter—*Risus sardonius*.

Nervous headache—*Cephalalgia*.

Toothache—*Odontalgia*.

Nerve pain—*Neuralgia* or *tic douloureux*.

1. *Facialis*. 2. *Lumbago*. 3. *Sciatica*.

Hooping cough—*Pertussis*.

Hiccup—*Singultus*.

Fainting—*Syncoppe*.

Hypochondriac affections—*Hypochondriasis*.

Epileptic fits—*Epilepsia*.

Apoplexy—*Apoplexia*.

Catalepsy—*Catalepsia*.

Hysteric affection—*Hysteria*.

St. Vitus's dance—*Chorea*.

Cramp—*Tetanus*.

1. Opisthotonos where the body is thrown backwards.
2. Emprosthotonos, body bent forwards.
3. Pleurosthotonos, body thrown to one side.
4. Lock-jaw—*Trismus*; where confined to the jaw.

Canine madness—*Hydrophobia*.

Paralysis—*Palsy*.

Delirium tremens—*Mania-a-potu*.

Mental derangement—*Vesania*.

Madness—*Mania*.

Mental derangement on one subject—*Monomania*.

Fatuity—*Dementia*.

Child-bed convulsions—*Puerperil convulsions*.

Convulsions of children—*Convulsiones*.

White or tumid leg—*Phlegmasia dolens*.

Want of understanding—*Idiocy*.

BLEEDINGS—HEMORRHAGÆS.

Bleeding at the nose—*Epistaxis*.

Bleeding from the lungs—*Hæmoptysis*.

Bleeding from the stomach--*Hæmatemesis*.

Bleeding from the bladder--*Hæmaturia*.

Bleeding from the womb--*Menorrhagia*.

DROPSIES.

General swellings--*Intumescentiæ*.

Dropsy of the skin—*Edæma*.

Dropsy of the abdomen--*Ascites*.

Dropsy of the ovary--*Ascites ovarii*.

Dropsy of the head--*Hydrocephalus*.

Dropsy of the sacs—*Hydatids*.

Dropsy of the chest--*Hydrothorax*.

Dropsy of the heart pulse--*Hydropericardium*.

Dropsy of the scrotum--*Hydrocele*.

Dropsy of the cellular membrane--*Anasarca*.

Distention of the abdomen by wind--*Tympanites*.

Corpulency--*Polysarchia*.

Distention of the cellular membrane by air--*Emphysema*.

VENEREAL DISEASES.

Clap--*Gonorrhœa*.

Pox--*Syphilis* or *lues venerea*.

Impotency--*Anaphrodisia*.

SCROFULOUS DISEASES.

King's evil--*Scrofula*.
 Malignant tumors--*Scirrhus*.
 Cancer--*Carcinomia*.
 Medullary sarcoma--*Fungus hæmatodes*.
 Rickets--*Rachitis*.
 White swelling--*Hydarthrus*.
 Abscess in the loins--*Lumbar or psoas abscess*.

DISEASES OF THE EAR.

Inflammation of the ear--*Otitis*.
 Deafness--*Paracusis*.

DISEASES OF THE HEART.

Inflammation of the heart--*Pericarditis*.
 Enlargement of the heart--*Hypertrophia*.
 Contraction of the heart--*Atrophia*.
 Anginose cincope--*Angina pectoris or syncope anginosa*.
 Palpitation of the heart--*Palpitatio*.

DISEASES OF THE ORGANS OF REPRODUCTION.

Inflammation of the uterus--*Hysteritis*.
 “ “ Vagina--*Vaginitis*.
 Retention of the menses--*Amenorrhæa*.
 Suppression of the menses--*Amenorrhæa suppressiones*.
 Difficult menstruation--*Dysmenorrhæa*.
 Whites--*Leucorrhæa or fluor albus*.
 Copious and profuse floodings--*Menorrhagia*.
 Inflammation of the ovaries--*Ovaritis*.
 Fallings of the womb--*Prolapsus uteri*.

DISEASES NOT REFERABLE TO ANY PARTICULAR CLASS.

Painful intumescence of the lower extremities--*Phlegmatia dolens*.
 Violent and morbid perspiration--*Ephidrosis*.
 Loss of appetite--*Anorexia*.
 Canine appetite--*Bulimia*.
 Squinting--*Strabismus*.
 Plaited hair--*Plica polonica*.
 Scurvy--*Scorbutus*.
 Tumors--*Tumores*.
 Guinea worm--*Dracunculus*.
 Sprain--*Luxatio*.
 Atrophy--*Atrophia*.
 Ulcer--*Ulcus*.

- Pimpled face--*Gutta rosea*.
 Chilblain--*Pornio*.
 Poisons--*Venena*.
 Worms--*Vermes*.
 Scalds and burns--*Vulnus ex Ustione factum*.
 Suspended animation--*Animatio suspensa*.
 Negro cachexy--*Cachexia Africana*.
 Frost-bitten--*Gelatus*.
 Teething--*Dentitio*,
 Milk fever--*Febris lactea*.
 Nightmare--*Incubus*.
 Giddiness--*Vertigo*.
 Leg swelled like an Elephant's--*Elephantiasis*.
 Abortions--*Abortio*.
 Excoriated nipples--*Papillæ excoriatae*.
 Yellow gum--*Icterus infantum*.
 Weaning brash--*Atrophia ablactatorum*.

GLOSSARY.

- Abortion—miscarriage.
 Abscess—a tumor containing matter.
 Absorbents—medicines to correct acidity.
 Acute—applied to a disease which is violent, and tends to a speedy termination.
 Affinity—attraction, capable of being connected.
 Antiphlogistic—counteracting inflammation.
 Aura epileptica—a cold ascending sensation which is felt by epileptic patients.
 Biennial—when lasting two years.
 Bile—a fluid secreted by the liver.
 Bone—*os*, bones, *ossa*, the solid and frame work of the body.
 Capillary vessels—the very minute vessels between the arteries and veins.
 Cartilage—a smooth, solid, and grisly substance.
 Cathetar—a pipe to draw off the urine.
 Cauterize—to burn with a hot iron or caustic.
 Cellular—consisting of little cells or cavities.
 Cerebral—relating to the brain.
 Chancre—an ulcer usually arising from venereal disease.
 Chronic—lingering disease.
 Clinical—at the bed side.
 Coma—profound lethargic stupor or sleep.

- Contagion**—infectious matter.
Confluent—running together.
Consecutive—following in train.
Conglobate—moulded into a firm ball.
Crural—belonging to the leg.
Delirium—alienation of mind.
Dermoid—belonging to the outer skin.
Desquamation—the scaling off of the skin.
Diagnosis—the distinguishing marks of disease.
Diatheasis—disposition or habit of body.
Douche—a stream of water falling on the head, a cold shower-bath.
Effluvia—exhalation from marshes.
Equilibrium—equally distributed.
Etiology—the doctrine of the causes of diseases.
Exacerbation—the increase of disease.
Exotic—foreign.
Farenaceous—made of meal.
Febrific—the exciting agents of fevers.
Fibre—an arrangement of filaments.
Filament—an elementary solid.
Ganglionic—a plexus of nerves.
Gangrene—a feeble circulation followed by mortification.
Gastric—relating to the stomach.
Gland—a secreting organ.
Gleet—a mucus discharge from the urethra.
Hepatic—relating to the liver.
Hernia—a rupture.
Hygienecal—that which relates to cure by diet and regimen.
Idiopathic—an original affection of a part.
Indigenous—native to a country.
Infection—contagion.
Integuments—the skin.
Irritability—the capacity of being excited into action.
Isthmus—passage between the mouth and gullet.
Lacteals—vessels containing chyle.
Lateritious—like brick dust.
Ligature—a bandage.
Lesion—incompetency of a part to perform its proper functions.
Lythotomy—an operation for stone in the bladder.
Malaria—pestiferous exhalations from marshes.
Mammæ—the breasts.
Maturation—the act of ripening.
Membrane—a web of fibres interwoven for covering certain parts.
Menstruation—the monthly discharge.
Modus operandi—the mode of operating.
Morbific—capable of causing disease.
Mucus—resembling the matter discharged from the lungs, nose, &c.

Neuropathia—a thickened state of a nerve without inflammation.

Nosology—a systematic arrangement, explanation, &c.

Organ—a particular arrangement of tissues, concurring to one end.

Os uteri—mouth of the womb.

Ovaries—female egg vessels.

Paroxysm—a periodical fit or attack.

Paracentesis—tapping.

Pathology—doctrine of the causes and nature of diseases.

Phlogistic—inflammatory.

Prognosis—foretelling the event of diseases, from particular symptoms.

Prophylactic—any means made use of to preserve health and prevent diseases.

Predisposition—susceptibility of disease.

Prolapsus—falling down, or out of place.

Ptyalism—salivation.

Puerperal—of, or belonging to child-bed.

Purulent—matter of good quality.

Pustule—a purple or small swelling.

Quartan—a periodical disease, returning every seventy-two hours.

Quintan—a fever returning every fifth day.

Quotidian—daily, an ague that returns daily.

Regimen—regulation of diet, air, exercise, &c.

Respiration—the act of breathing.

Resolution—a termination without suppuration.

Saliva—spittle.

Sanitive—healing.

Sanguiferous—carrying blood.

Sequelæ—following in order or train.

Stertor—a noisy kind of respiration, snoring, as is observed in apoplexy.

Symptomatic—the consequence of some other disease.

Tenesmus—an ineffectual and painful urging to go to stool.

Therapeutic—relating to the employment of medicine.

Thorax—the chest.

Terminia—gripping pain.

Tubercles—small hard tumors.

Turgid—swelled, bloated.

Ulcer—a sore generally ill conditioned.

Umbilical cord—the navel string.

Urethra—the canal which conveys the urine.

Uterus—the womb.

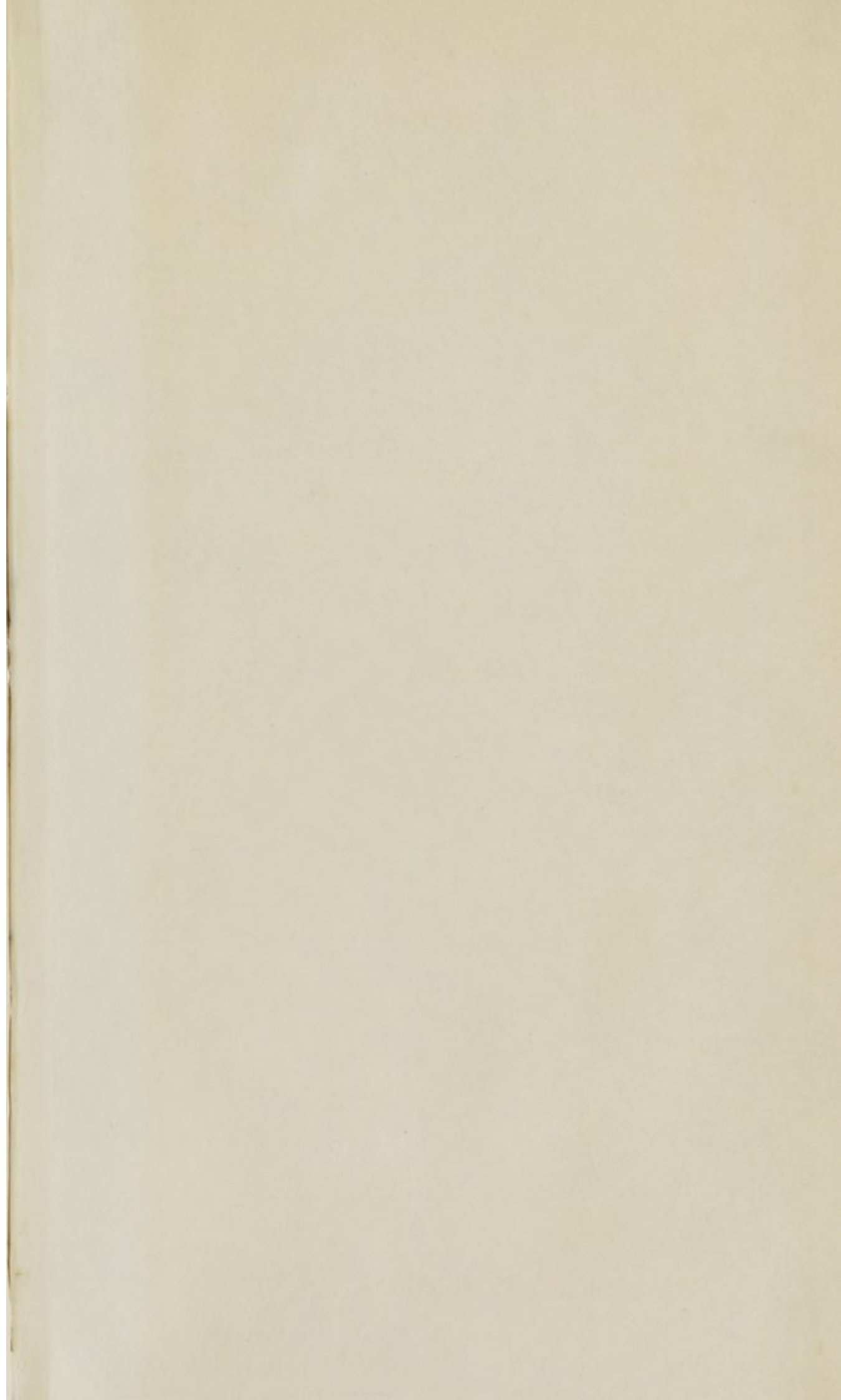
Venesection—blood-letting.

Vichy—the name of a mineral water.

Virous—poisonous matter.

Viscera—the entrails.

Vital—the seat of life.



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